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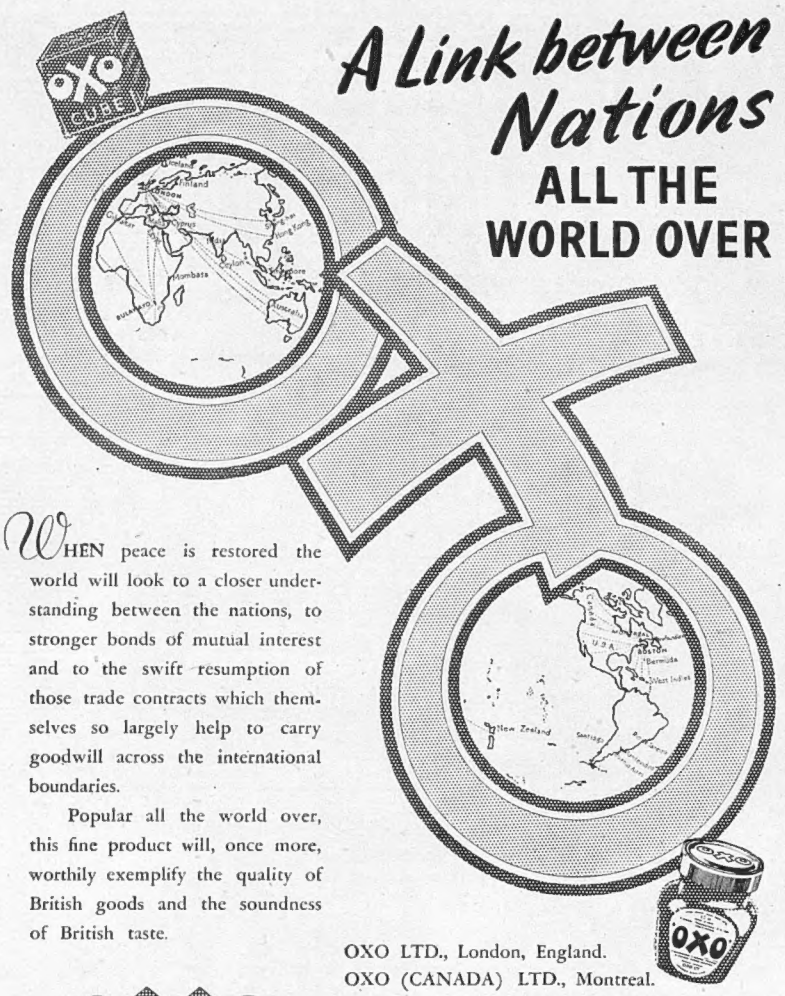


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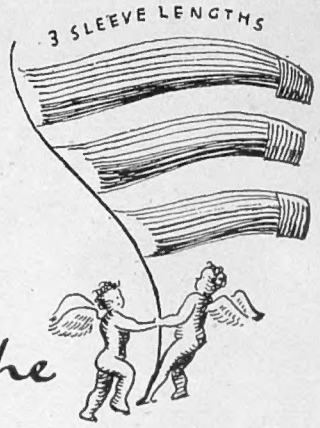

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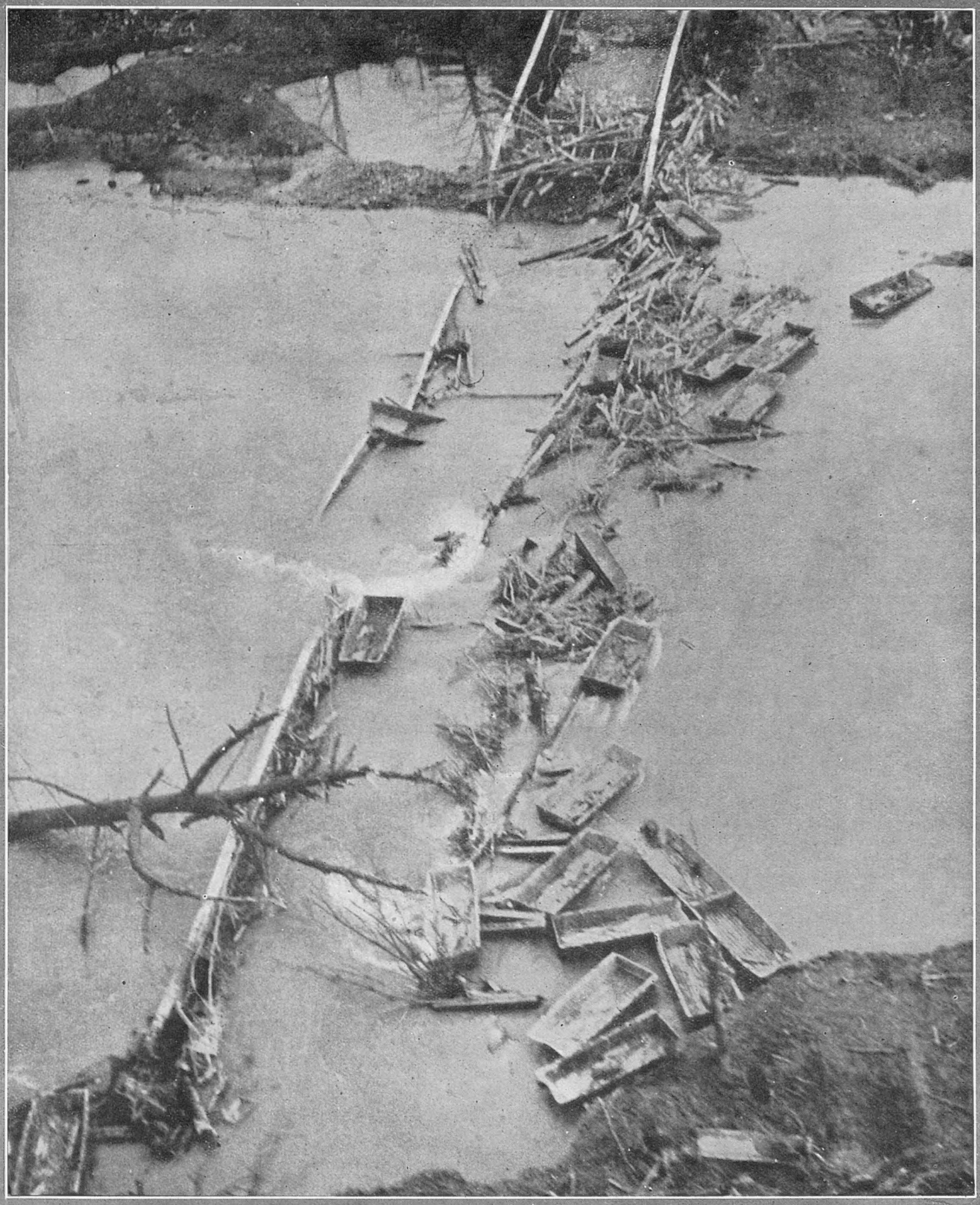

**HOW THE ROER RIVER WAS CROSSED : AN ABANDONED BRIDGE AND ASSAULT BOATS used by infantrymen of the Ninth U.S. Army on the afternoon of February 23 for a successful surprise crossing of the river at the opening of the big new offensive against the Germans**

The Roer had presented a formidable obstacle to the Allies all through the winter : on Friday afternoon, February 23, American troops of the Ninth Army broke across it for the big new offensive now in progress against the Germans west of the Rhine. The river is normally 40 to 80 ft. in width, but owing to the recent heavy snowfalls and the subsequent rains it was some 250 ft. across at the moment of the attack. The Germans had driven stakes and barbed wire into the river-bed just below the water-level and had concentrated artillery at strategic points to resist a crossing. Nevertheless, bridges were put up under heavy shell-fire and assault boats made their way across. After the launching of the attack, nine bridgeheads were created across the Roer and these were finally linked up into one continuous salient with a base 28 miles long

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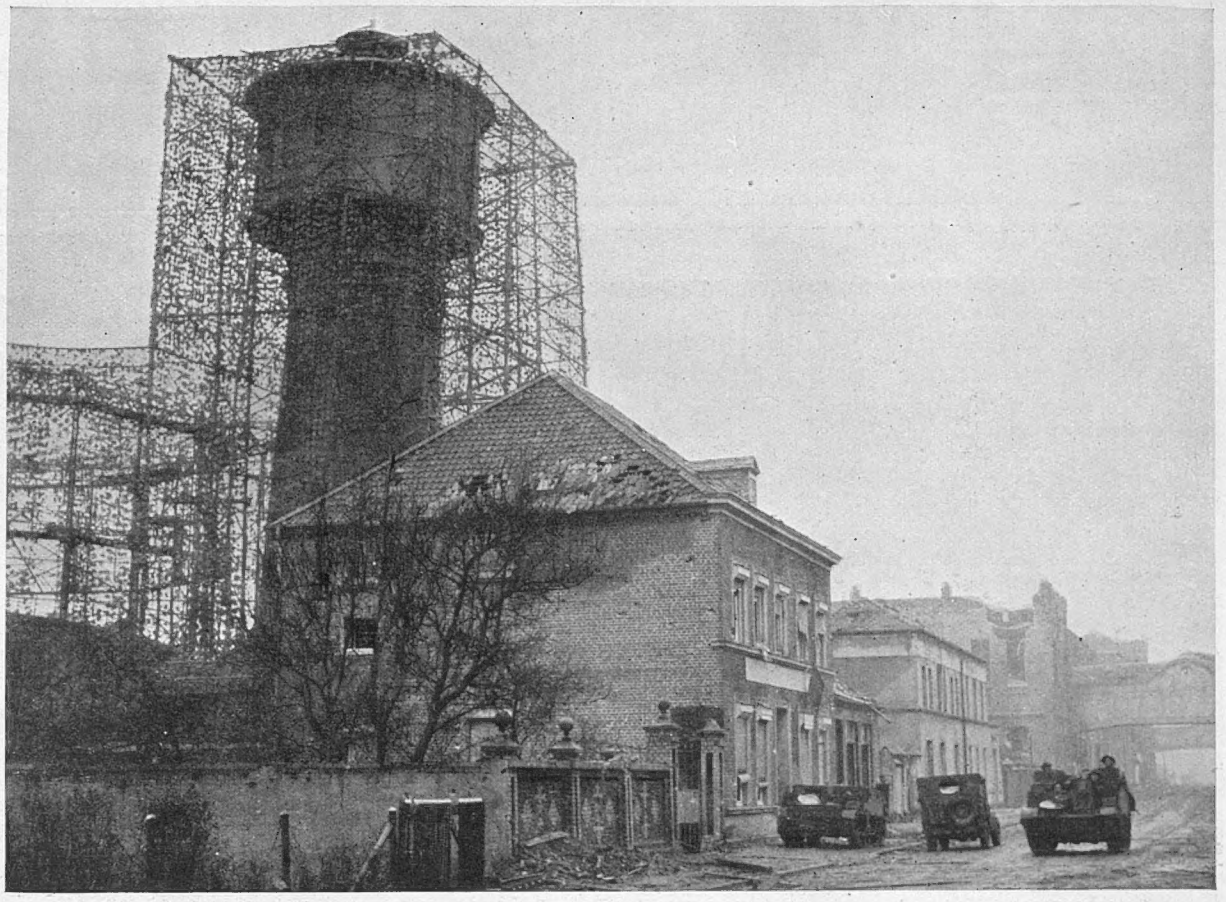
# A WAR NEWSLETTER —No. 287

1, NEW OXFORD STREET, W.C.1.

**A Good Start.**—The American Ninth and First Armies have made a good start, breaking out and fanning out across the still swollen Roer River into the plain of Cologne, and mopping up Julich and most of Duren by the week-end of February 25. The Allies on the right and left have kept the ball rolling. The weather has been kind for flying and for drying, and we have no complaints on that score. Moreover, S.H.A.E.F. have frankly announced their object and expressed reasonable confidence in attaining it—no less than to destroy the Nazi armies still west of the Rhine. On the banks of that river lie the great cities of Dusseldorf, Cologne, Bonn, and several others hardly less important. Some sprawl mostly west, some mostly east of the river. All, and the great Ruhr area, are *dominated* by armies holding the west bank; dominated and made untenable. It is a great project, a hopeful project because the Germans have clearly insufficient reserves in the West to resist everywhere, and if progress is slowed down towards Cologne, then it will be stepped up in the Saar or towards Düsseldorf. The Air Forces never cease their record-breaking and heart-breaking pounding of Nazi communications, oil supplies, reserves. Something must give—perhaps everything—one day, any day now. For the East is not quiescent. The terrific coils of Zhukov and Koniev are taut again, and the Crimea box-of-tricks is all set for release. The end may not be in actual sight, but the beginning of the end is in the foreground in vivid outline and tones. The long agony draws to its close. The curtain is beginning to descend on the tragedy of *The Martyrdom of Man*, which has played to crowded houses during a record run, beside which *Charley's Aunt* and *Chu Chin Chow* look like swift theatrical flops. Will there be a "happy ending"? That depends on you and me, on John Bull, Jacques Bonhomme, on Ivan, on Uncle Sam, Uncle Tom Cobbley and all. Time will show. What is certain is that there is going very soon to be an end of something very nasty and the beginning of something new, which will be nasty or nice, according to what Uncle Tom Cobbley and all decide to make it. We are not "all set" for a rest-cure yet by any means or for several years

**Berlin and Tokyo.**—I suppose that even now no one would put his shirt on the war with Japan outlasting the war against the Nazis. The pundits rightly insist on the vast amount of work still to be done before the untouched millions of Japan's first-line troops eat the dust. Forty miles separate the Russian spearheads from Berlin. A very much wider and deeper ditch than the Oder, or its tributaries, separates the Allies from Tokyo. But one psychological point is very little stressed in the British and Allied Press—the difference in the mentality of the Jap and the German. Both are shameless; both can be slavish. But never yet has the Junkerism of Japan reduced the Japanese race to the nadir of political inertia and surrender of individual will and reasoning power, as has the iron heel of Nazism the average German. The Japanese civilian is regarded by the military dictatorship as so much dirt. Yes; but that dirt has in it more power and spirit than remains in the German civilian dirt. The civilian element in Japan still has a political shot in its locker. It is still capable of a sudden upheaval which might upset the military dictatorship. It still retains a spark of self-determination, and the "shamelessness" of the semi-barbarous would not rule out an act of revolt which would amount to a "shameless" surrender to Japan's enemies. The Jap, it is true, thinks a lot of "face-saving," but he has always been an adept at ways and means of easy "face-saving." Any formula will do. The German civilian, I believe, is to-day incapable of any united effort to make submission. He is sunk too far in apathy. But not so the Japanese. I believe that their very shamelessness, working with what is left of their political initiative or freedom, might still bring about a revolt in Japan which might well finish the war in the Far East while Tokyo is still immune from attack save from the air. But the possession of Berlin (as I think) can afford no such ground for expectation or possibility



**THE HEIGHT OF CAMOUFLAGE:** R.A.F. Reconnaissance men have seen quite a deal of German camouflage of strategic structures in Germany, but this is the first ground-level view of such painstaking camouflage on the part of the Nazis to hide an important water-tower and gas container on the outskirts of Goch. Such camouflage, which consists of steel scaffolding over which is stretched netting with pieces of green and brown cloth, seems obvious from the ground, but is very difficult to detect from the air. That the Germans should go to such lengths to conceal public utility structures such as these is an unconscious tribute to the thoroughness of the R.A.F.

**The Coming of Spring ?**—There are signs in Nature that Persephone is packing up in the infernal regions and moving her luggage into the lift in preparation for an ascent to sunlight and flowers. Early as I rise from bed, to-day the thrushes are earlier at work and the light of day is clearly visible through the (modified) black-out when I drink my morning tea. And as with Nature, so with total war. After the long, long night of nightmare, there is packing-up going on in the infernal regions of aggression, and light shining through the black-out. Berlin has felt it for some time and already Tokyo is on the mat. And Allied measures with Tokyo at least represent an earlier spring than most of us looked for. Will the end of tragedy and suffering, unparalleled and long drawn out, come suddenly with a divine surprise? As spring comes to England? We dare not prophesy. We know that everything has an end at last, good and bad But good and bad alike, and likewise, have a beginning. Before we sing with thankfulness and confidence, "The night is past and the dawn at last Is coming with orient light," let us perpend. Let us remember that if Time and Chance or the Mercy of Heaven put finis at last to the agonies of humanity, those agonies originate in the folly and selfishness of mankind. And Man alone is responsible for initiating, and ending, his eras of peace and plenty. What will follow the new spring which dawns on suffering Humanity? A brief summer, a stormy autumn and then . . . another long, dark winter? Or a long, Arcadian summer? It rests not with God, Time or Chance. It rests with you and me and our fellow-citizens throughout the world. Constant hard work, constant restraint and self-discipline, everlasting watchfulness and reflection, eternal sacrifice of self—those things make up the price men must pay for an Arcadian summer. Are we such fools as to forget this latest lesson before Martinmas?

**Back to First Principles.**—I cannot believe it. I cannot believe that after *this* lesson we shall drift back to our nastinesses, our pettiness, our snobbery, our civic inertia, our selfish, narrow schemes, our backyardism at home, our nationalism abroad. And yet . . . what is this sermon but "the parson's saw," a vague string of ideals on a brittle cord? If you and I had indeed been good citizens in 1938, selfless Christians, clear-sighted, clear-headed Solons in a democratic country, could we by any actions within our power have done anything to avert the tragedy? What real influence have the best of us in the past decades been able to use in the choice of our representative in Parliament, or over the policy of our elected Government? We start now from *scratch*. That is the fearful truth. *All* is to do. We have to educate ourselves; to interest ourselves in what happens at the *source* of representative government, not at the mouth. Our influence must first become a *good* influence, and then it must be directed to play on the sources of supply of local and central government representation. We must choose on *character*, not on party slogans. We had forgotten the very meaning of half the Christian virtues—character, honour, patriotism, toleration, discipline, unselfishness, even manners. We have to begin again from the beginning, humbly, with prayer and fasting, if this new spring is to be anything but a false spring, another shattered hope, one more lesson thrown away, one more betrayal. A great opportunity, but a tremendous undertaking.

**"Safe as Houses."**—That air transport under the best conditions is even now attended by far greater risk than rail, or even road, transport I still believe. As obstinately, in the face of statistics, I still believe that statistics can prove anything you want them to prove. The alarmist presents in Parliament a list of the eminent men who since 1939 have lost their lives in air accidents not in face of the enemy. The responsible Minister or official replies with statistics which show that risk of accident is for all reasonable people practically negligible. Alarmist flourishes his list of "business done" to eminent men; and it *is* a formidable list, *nem. con.* The official replies that in war the percentage of eminent men carried is unusually high and that accidents to eminent men get all the publicity. What about the millions of plain men carried safely with no publicity shed on their safety? List and counter-list, statistic cut statistic? What is truth? Flying is "as safe as houses." Let us leave it there. Whether the old phrase "safe as houses" means what it meant in 1939, or after the Blitz of 1940 on Coventry, London, etc., it boots not to inquire.

**Petrol.**—If an underground explosion had burnt up the world's supply of petrol in 1913, would the earth to-day be a happier, wealthier, healthier, wiser place? I could not swear to that. Science would by now have found the means for men to make total war on each other, with a substitute for internal-combustion engines. Or we should have made war frightful again with horses. But that happy event would have given a pause for reflection and repentance which mankind would doubtless have neglected. And it would have slowed down the social revolution, general restlessness and the uglification of the countryside. Now exclusively in Germany, it seems, explosions above ground (the work of men, not Nature) have reduced German supplies to one-fifth of what they were a year ago. The figure of "four-fifths" destroyed is, of course, largely guesswork. In the past, the Ministry of Economic Warfare have issued many such optimistic statistics. But the evidence grows, and is derived from the data collected by Intelligence in the Field and at Home, from observation, prisoners' statements, and all the overhead and underground information obtainable from inside the Reich. If the guess be half-true, it is something to thank God for. The cost of achievement has been tremendous. It is impossible to regard the cost as too high.

THE OLD STAGER.

# THE ALLIED ATTACK ACROSS THE ROER

THE FIELD-MARSHAL SEES FOR HIMSELF. Travelling by jeep, Field-Marshal Montgomery—with General Crerar, commanding the First Canadian Army (part of which consists of English and Scottish troops)—made a tour of the forward areas, where the offensive is steadily progressing against some of the stiffest opposition from the enemy. Here the two Commanders are being helped out of their heavy coats in readiness for a roadside conference

ONE OF THE FOOT-BRIDGES ACROSS THE ROER RIVER by means of which American infantry advanced under terrific shell-fire at dawn on February 23. Many of them were put up by the Engineers along a stretch of more than 20 miles: all were subjected to a hail of fire from the Germans

AN AIR VIEW OF THE DEVASTATED TOWN OF JULICH, the captured German strong-point on the road to Cologne, which is now little more than a heap of rubble. In this picture, the leading soldier (in the main street in the centre of the view) is carrying a bazooka; tanks are patrolling the cross-roads in case the Germans return to the attack

MOPPING UP AFTER THE CAPTURE OF GOCH. By the evening of February 21, British troops, using tanks and flame-throwers, had cleared the German "bastion" town in the Siegfried Line defences, with the exception of a few isolated snipers who had been left behind to delay the Allied advance. In the ruins it was difficult for the British to oust them, and large areas had to be razed before this could be effected. This picture was taken as tanks were negotiating a giant crater in the Muhlenstrasse on their way to mop up one of the last German strongholds

THE DESTRUCTION OF A GERMAN SYNTHETIC OIL PLANT IN ONE BLOW BY THE R.A.F.: The plant at Zeitz, near Leipzig, before it felt the weight of Bomber Command's attack on the night of January 16, 1945. The area occupied by the plant was crowded with valuable installations of all kinds: few signs are visible here of previous damage by air raids—but, now compare this picture with the one below!

# THE OBLITERATION OF A GERMAN OIL PLANT

## And Other Pictures of the Air Onslaught on the Nazis

On January 16, 1945, the R.A.F. carried out three devastating attacks on Nazi oil targets in German-occupied territory. Twelve hundred "heavies" were engaged on this task, of which twenty-eight were reported lost. What happened at one of the places selected is shown in the large picture reproduced below: it is typical of the systematic assault on the enemy's oil resources which—if report be true—is having a cumulative crippling effect on his capacity to continue the war.

Zeitz is situated near Leipzig. The plant employed about 5,000 workers and its output was equal to that of some of the largest works in the Ruhr. For long periods during the summer of 1944 it was kept out of action by American bombers; but it was managing to produce about half of its normal output when Bomber Command attacked on the night of January 16, 1945.

On February 17—just a month afterwards—a reconnaissance photograph was taken. This showed that the destruction wrought was so complete that the plant appears to have been abandoned. This is most unusual, for normally the Germans begin repairing their damaged oil plants within a few hours after an attack, so great is their need for this precious commodity.

The significance of recent attacks by British and American bombers on oil targets cannot be lost on the Germans. They no longer enjoy the supplies from the many areas out of which they have been driven during past months and are, therefore, increasingly dependent on the synthetic plants at which the "heavies," from many bases, are now hammering so determinedly.

THE SAME OIL PLANT ONE MONTH AFTER BOMBER COMMAND'S NIGHT ATTACK ON JANUARY 16: There is no sign of any attempt at repair work, or of activity of any kind amidst the ruins. The crowded plant of the upper picture has been reduced to a mass of debris amongst a dense concentration of shell-craters. Most of the pipelines are broken and all the vital parts of the plant have been hit. Large numbers of storage tanks and cooling towers were either completely destroyed or severely damaged. This attack was carried out on a day when the R.A.F. made three heavy blows against German synthetic oil plants, employing 1,200 heavy bombers on the task: the bombing of Zeitz was undertaken by a large force composed of Lancasters

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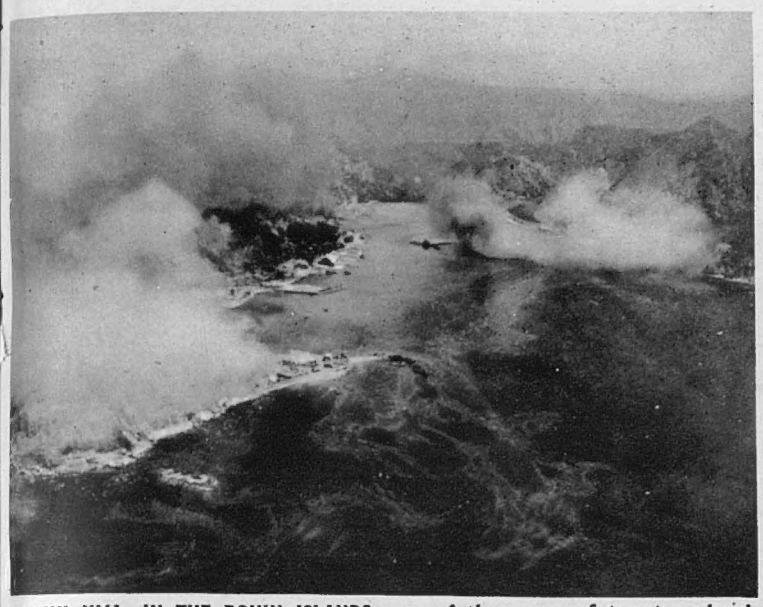
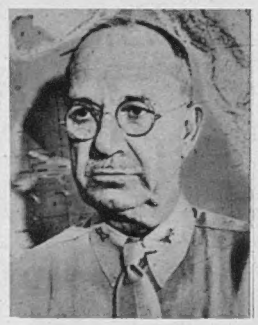
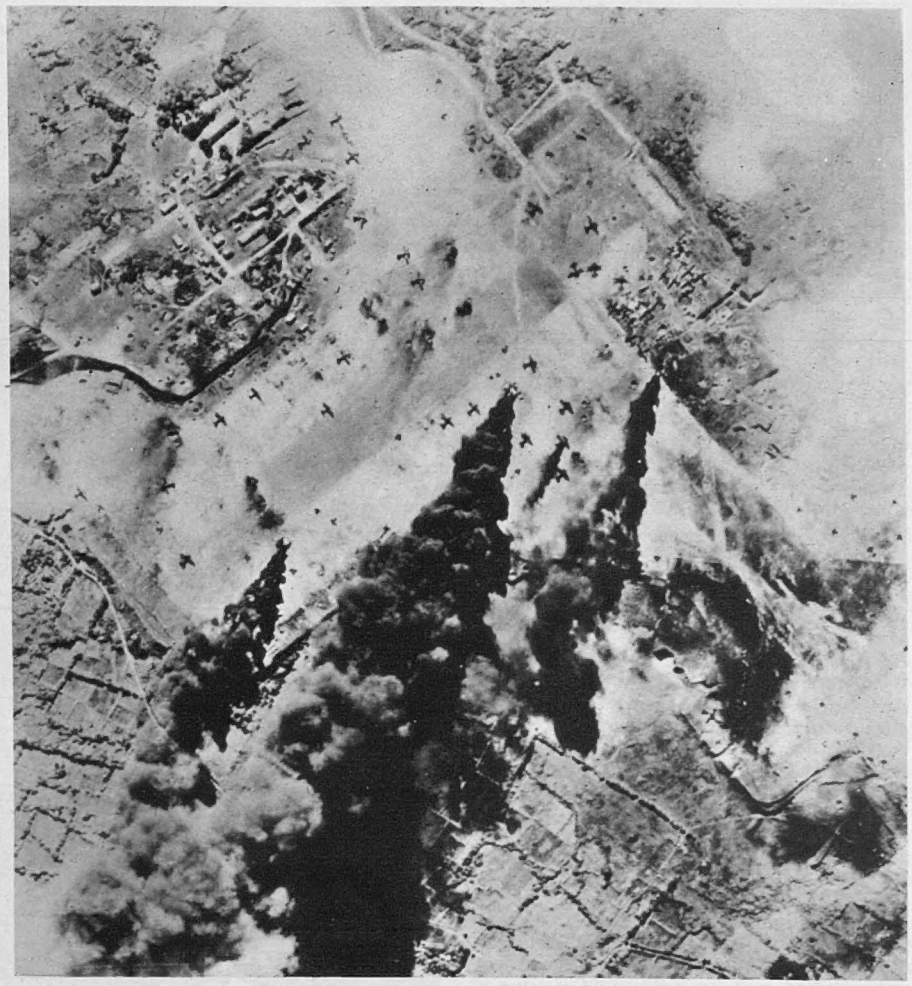


**CHICHI JIMA, IN THE BONIN ISLANDS, one of the group of twenty volcanic islands of which Iwo-Jima is the chief :** This picture was taken on September 2, 1944, when the Americans began their attacks on the group, the culminating point of which was the invasion of Iwo-Jima on February 19. The town area and seaplane base are here hidden under a pall of smoke as aircraft from a fast American Carrier fleet struck at a point only some 600 miles from the heart of Japan, destroyed enemy planes, sank shipping and demolished military installations on a wholesale scale

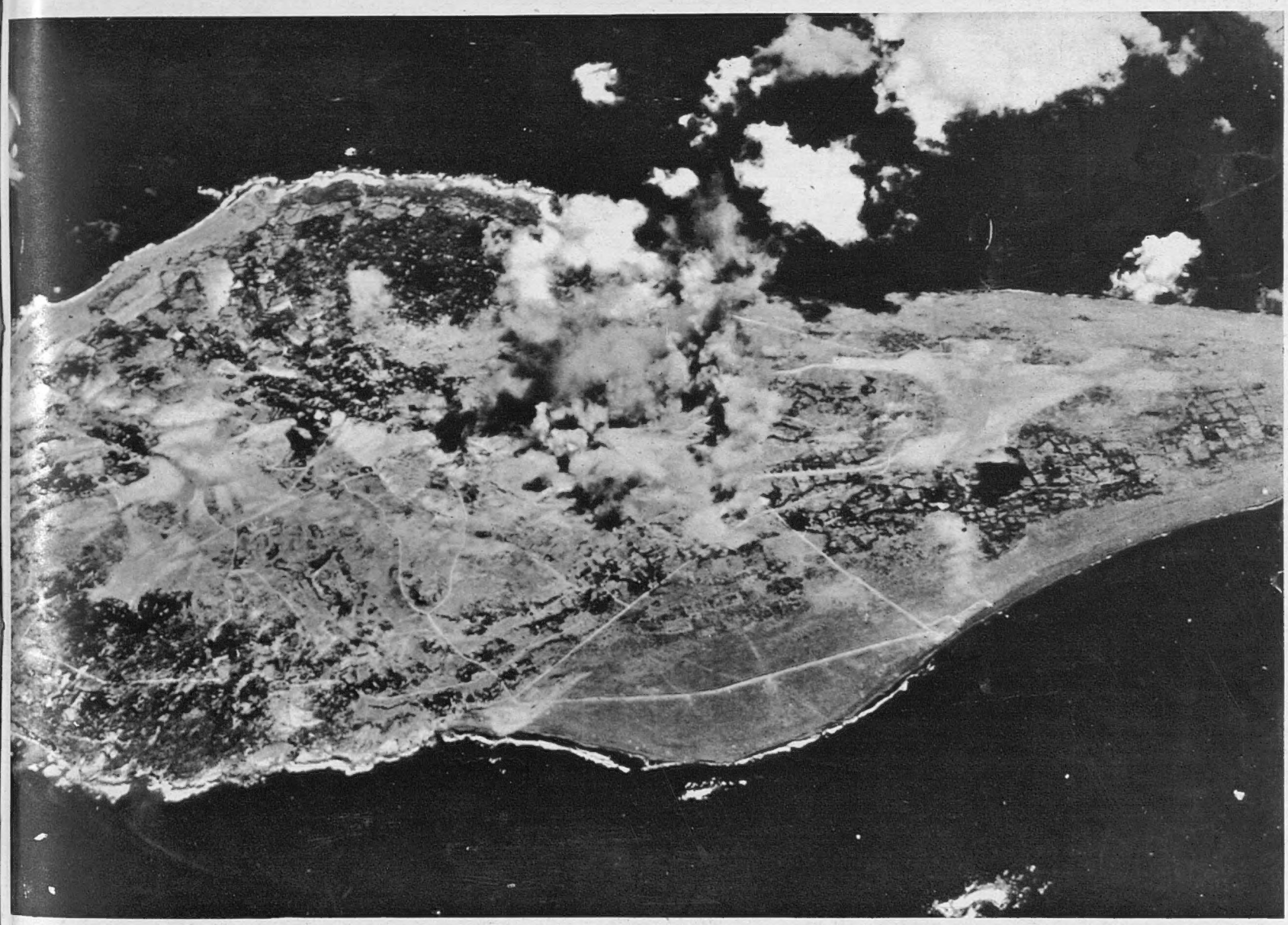
**VICE-ADMIRAL MARK MITSCHER, commanding the "bomb Tokyo" Fleet**



**LT.-GEN. HOLLAND M. SMITH, who led the invasion of Iwo-Jima**



**THE JAP ISLAND OF IWO-JIMA IS ATTACKED BY THE SEVENTH U.S. AIR FORCE—in November 1944. Scores of Jap planes on the runways were caught in this raid. Although only a tiny volcanic islet, Iwo-Jima is highly important to Japan**



**THE AIRFIELD ON IWO-JIMA WHICH HAS NOW BEEN CAPTURED BY THE U.S. MARINES DURING THEIR INVASION OF THE VOLCANO GROUP : It lies south of Tokyo, and has been strongly fortified ; it was used by the Japs as an air base from which they hoped to block the American advance to the Philippines and Formosa and to intercept bomber aircraft en route to Tokyo**

This picture was taken a few months ago, when American bombers were beginning their assaults on the volcanic group of islands which they have now invaded. Iwo-Jima was converted into a "fortress" by the Japs, its natural caves having been converted into a defence system running into the walls and base of a volcano. There are two airfields on the island, one of which has been captured by the Americans : the latter are, at this moment of writing, approaching the second. The landings were made from a fleet of American ships reported to consist of 800 vessels. It is thought that the enemy garrison now trapped on Iwo-Jima consists of between 14,000 and 15,000 men

# The SWISS SHOULD NOT PROLONG NAZI RESISTANCE

## By Assisting to Increase the German Capacity to Wage War in the Bavarian "Last-Stand" Fortress

By FERDINAND TUOHY

THERE has been a tendency to associate the Anglo-Franco-American talks with Switzerland in the main with stopping the Germans "pickling away" loot in that neutral country, and with the discontinuance of freight-in-transit to Kesselring over the St. Gothard. But, surely, just in the background is a new and more direct proposition? Surely the situation of Switzerland *vis-a-vis* the war begins to show yet another, final convolution?

When the Nazi chiefs have ultimately withdrawn their S.S., Waffen S.S. and other "suicide" forces into the mountainous regions of the Bavarian and Austrian Alps, their only surviving link with the outside world will be with the Swiss. Everywhere else they will be hemmed in by the victorious Allies, save in the corner where the Austrian province of Vorarlberg joins the Swiss Canton of St. Gall.

The full frontier-line in this area, from the Swiss-Italian side below Davos, zigzagging over to Liechtenstein, and so down to Lake Constance, may measure more than 50 miles. But at least half is high mountain. For purposes of regular communication between the two countries, only about the last 20 miles count: beside the baby Rhine, looking like a canal as it moves by Vaduz down to Lake Constance.

Across this border runs the main railway line and road system from Zürich and the productive heart of Switzerland, to Innsbrück. Over this border supplies have streamed from Switzerland into "Greater Germany" throughout the war years, even as they streamed through Bale towards the north. Nobody has denied this—merely explained or condoned the traffic.

The ideal would be for the Western Allies to place themselves athwart this Vorarlberg link. But, because of its potential value to them as a sort of life-prolonger *in extremis*, the Nazis are sure to fight cunningly and stubbornly to keep it open. In the near-background of the present talks, therefore, lurks the desirability of bringing home to the Swiss that they really should not consider prolonging the struggle by continuing to send what *we* deem to be war supplies to Hitler after he has settled in his last lair.

If you look at a map, this lair consists of an eastern (Austro-Bavarian) bulge connecting, through the Innsbrück corridor, with a western bulge (Switzerland). East-going traffic from Switzerland to the Tyrol requires to be controlled out of existence, as if the would-be recipients were outlaws from the whole European body, veritable untouchables. Such is the new proposition.

That exceptional military preparations are being made in the mountain country from Arlberg to Salzburg and beyond is well known. Supply trains of guns, fuel, food and munitions are unloaded at Langen, near the three-mile-long Arlberg tunnel, and at Immenstadt, to the north. Innsbrück, capital of the Tyrol, is a vast depot of war stores of all kinds. In fact, it is now generally accepted that the whole area—and much farther afield, to Kempten, Munich, Linz, Vienna, and round by Brück, Graz, Klagenfurt and Lienz—is being converted into a varying form of giant fortress for "the last stand" which, the Nazi fanatics hope, may endure until Europe has grown too weary to abstain from some sort of terms.

For an idea of what may be preparing, one has but to turn to the discoveries made by Koniev's men in Silesia. "One site captured by the Red Army [one reads] was a huge underground factory under a large forest. From the air there was nothing to show that shells and mines were being turned out in heaps among the innocent-looking pines. Underneath this natural camouflage were found concrete walks and tracks, made invisible from the air by canopies and acres of skilfully planted woods. Miles of tunnels ran underneath the hills and lakes. Off the tunnels, giant underground warehouses stored pile upon pile of shells and mines. The whole underground city was mined against sudden capture, though the system failed by one German's error. Steam was still at full pressure and motors were buzzing in the subterranean power-house and water stations. Other underground factories had aerodromes attached to them. Miniature electric railways connected them with the surrounding countryside, while suspension cables for freight cars were hidden among trees."

But, if anyone still doubts that this sort of thing is massively in preparation for Hitler's last lair abutting on Switzerland, let him recollect the words of General Henri Guisan, C.-in-C. of the Swiss Army, uttered at the time of the worst crisis, in the summer of 1940. In one of the most dramatic incidents in Swiss history, the General ordered all commanders of his troops to the meadow on the Ruetli, where the Swiss Confederation was founded in 1291. . . . "In view of the bad times and for their better protection and defence, to stand by one another, with counsel and with action, with life and with property, with united force and strength, against any and all who threaten oppression and injustice." The General so reminded all present, and then he told them his plans. He would create, he said, a reduit—that is, an inner fortress—in Switzerland, which no attacker could take and which would make every potential invader think twice before taking on the Swiss Army. It meant, Guisan said, abandoning the most prosperous part of Switzerland, the towns and the homes of the majority. But the decision had been taken, the creation of the reduit begun. It was being constructed within the chain of Alps over 12,000 ft. high. These formed a natural barrier. Often only a single road led into the interior. Here would be collected everything an army purged of all weakness would need to continue resistance for years. Complete factories were being built inside the mountains.

So spoke Henri Guisan, and as he is still C.-in-C., he, at least, can have no illusions as to what Hitler is preparing next door.

The next thing to consider is: What supplies have the Swiss sent to the Germans since 1939? There is no question of distributing censure or the reverse, of going into treaty rights or the ethics of the matter. If I did, Professor von Salis, the ablest Swiss historian, would have answer as far-scouring as a view from the Matterhorn. "Part of the ransom [he holds] which the Swiss people must pay for their policy of Stillesitzen is to endure without any hope of recompense or benefit great military, financial and personal sacrifices when at its frontiers the Powers are embroiled in wars waged for purposes of gain and for an increase in prestige and power." Maybe the Professor has got something there; one does not dispute it; only the absence of recompense!

It was realised that Switzerland could not refuse to supply the neighbouring colossus astride Europe. We realised that the all-conquering Germans deliberately abstained from invading Switzerland so as to keep it as a vast workshop for themselves. The Swiss realised this too, if they will recall the answer they used to get to their question: "Why have you left us alone?" "Why shouldn't we?" used to josh the Germans. "By leaving you alone we have 4,000,000 prisoners who work for us and who feed themselves."

So the great watch-making industry piled up precision instruments for the Nazis. Other factories turned out farm implements and agricultural machinery (which might be convertible into tanks; after all, what was a tank but a gun-carrying tractor?). The Luftwaffe got its instruments from the Swiss, and its silken parachutes. An avalanche of milk products went to the Reich, which also bespoke all Swiss dyes and chemicals, silk and cotton goods that it required; these are among the leading industries of the Confederation. Other exports to the Germans included machine-tools, chocolate and preserves, especially fruit, footwear, clothing, cattle, locomotives and rolling-stock. At one stage 40,000 German cars were sent to Switzerland, changed to wood- and coal-burners, and sent back to Germany. All through, electric power has been sent to Germany from the jointly-owned Rhine dams.

So much is jointly owned in Switzerland, by Swiss and Germans. The Confederation is to-day simply permeated with German business and finance, including buried Nazi money. What simpler than for leading Nazis to do a bit of jugglery and transfer stolen fortunes to Switzerland, where the funds can be used later to sustain the Nazi Resistance? I don't say this has happened, but it is certainly what the Allies want to have disclosed if it has happened. So far, the Swiss suggest that their resident Germans should not manipulate more money than "their normal private and business requirements." But just where does private trading stop?

It is akin to the difference of interpretation over what constitutes war material. The Swiss don't see that our way, either. Ever since Allied victory became cinched in September they have ceased to export to Germany obvious arms, munitions and explosives, and ball-bearings, fuses, aeroplanes and spares, telegraph, telephone and radio apparatus and spares. But the Nazi Resistance, when it gets going in Tyrol and the bulge beyond, will stand in most pressing need of almost *everything* the Swiss produce—far more urgently will they need these supplies than when Germany was expanding triumphantly.

Food and oil are likely to be highest priorities in the Nazi mountain maquis. The Germans are already running short of the former and the French maquis proved how starvation can end things where other methods failed. As for oil, there is an ominous precedent, dating from 1941, when the Nazis pressed for, and obtained, Switzerland's reserve of 500,000 tons on the ground that it was no longer needed as Germany didn't intend to attack the Confederation. Neither food nor oil should be allowed to go inside Hitler's last lair.

The Allies may have to supply the Swiss with coal and iron-ore when the German deliveries dwindle. Yet the Swiss cannot expect their industries to be kept going at full tilt as heretofore. They have had a fair innings in the circumstances, and should agree to less humming in their factories for a brief, concluding spell while the Nazis are dispatched. As for the loss of the German market, if wisely lost it should be, the Allies can make co-partially compensating purchases of the Swiss.

Any Swiss sustaining, covert or open, of the neighbouring Nazi Resistance will infallibly have the effect of drawing out the dire sufferings of liberated peoples, who cannot be adequately succoured until the military have finally dealt with organised Nazi warfare. It would be contrary to all Switzerland's humanitarian reputation to spin out this suffering.

There 's also this gladder and very Swiss note: the sooner Nazi Resistance is quenched next door to Switzerland, the sooner will Switzerland's prime industry, tourism, be reinstated.

**THE RUMANIAN FASCISTS MEET IN BERLIN—presumably before the great Allied air raids:** Many prominent Fascists and members of the notorious Iron Guard Movement fled to Germany before the entry of the Russians into Bucharest and sought temporary refuge in Berlin—at least, before the Allied Air Forces began their recent heavy raids on that capital. Here one of their number, Professor Manoilescu, is "explaining the work of the men who founded the Iron Guard." In the front row are: (left to right) General Kortzfleisch, General Chirnoaga, State Secretary Steenegracht, Horia Sima (Head of the Iron Guard), State Minister Dr. Meissner (the one man who has managed to survive every form of Government in Germany since 1919), the Rumanian Minister Georgescu, and Professor Camillegchag (Vice-President of the German-Rumanian Society)

**TO PROTECT THE NAZI RAILWAY JUNCTIONS:** Here is one of the German heavy guns in action on the battlefront in the East. This is one of the methods whereby the Germans hoped to stem the advance of the Red Army, but without success

**A "LAST-STAND" NAZI PARA-TROOPER** defending a position amongst the debris of a house on the Western Front. It is reported that numbers of such snipers are now being specially trained by Himmler, to fight on in Germany to the bitter end

*The fact that goods made of raw materials in short supply owing to war conditions are advertised in this publication should not be taken as an indication that they are necessarily available for export*

THE ENTRANCE TO THE HOTEL SCRIBE, IN THE CENTRE OF PARIS—once a fashionable hotel well known to visitors to the French capital, and now the centre from which all war news is distributed from the Western Front

THE INTERIOR OF ONE OF THE WIRELESS ROOMS AT THE SCRIBE, from which "copy" sent by the Allied war correspondents is wirelessed to the G.P.O. in London. It is staffed by men of the Royal Signals

# FROM FRONT LINE TO FLEET STREET

## The Paris Hotel which is Now the Western Front News Centre

Once a fashionable Paris hotel, the Hôtel Scribe is now the nerve centre of all the news from the Western Front. Teleprinters, wireless transmitters, broadcasting and recording studios have been installed in the bedrooms, and cables and wires have been laid along the corridors. Some of the bathrooms have been turned into photographic dark-rooms, and the reading rooms into map rooms. This set of pictures illustrates the various channels through which the war correspondents' despatches go before reaching their respective agencies and newspapers.

The news arrives at the Scribe from three main channels: 1—The Communique Section, which writes and issues the daily communiques; 2—The Map Room, or briefing section, which receives the latest detailed news and changes from the front at all hours of the day and night, and passes it over to the Correspondents during the briefings; 3—The front-line Reporters, who return from the front and send descriptive stories of the scenes they have witnessed in the forward areas.

THE AIR DESPATCH LETTER SERVICE OFFICE: Here, the despatches, recordings and films from the Correspondents are sent by air to all parts of the world

AN EARLY-MORNING SCENE IN THE HOTEL SCRIBE: Chambermaids clearing away the hundreds of yards of tape from the "ticker machines" after it has been discarded by the scores of newspapermen in the various rooms

COMMUNIQUE SECTION: The man who actually writes them is here seen at work with his assistants. From left to right, are—Captain T. D. Calvin, D.S.C.; Major D. W. Dresden, U.S. Air Corps; Lieut.-Colonel D. R. Jordan, U.S. Field Artillery; and First Lieut. W. H. Stokes, U.S. Army. Colonel Jordan is the officer who, with the other three, compiles the daily S.H.A.E.F. communiques. They have to be fast workers, because most of the news which arrives from the Army Groups the first thing in the morning has to be condensed and the communiques issued as much before 10 a.m. as possible

# AUSTRALIAN TROOPS in the PACIFIC

## New Pictures from Bougainville and New Guinea, where Commonwealth Soldiers are Fighting the Japs

**ON BOUGAINVILLE ISLAND, where Australian troops recently took over from the Americans. This bird's-nest observation-post high in the tree-tops was captured from the Japanese during the initial American occupation of Terekina : the area is now being held by the Australians**

**IN THE AITAPE AREA OF NEW GUINEA : A section patrol, about to leave a forward area headquarters to probe the Jap-held jungle, are briefed in the terrain by an Intelligence Officer. Models are made to scale and show the relief of the country—rivers, streams, hills, etc.—to give the men an idea of what they are up against**

The original landings on Bougainville Island, in the Pacific, were carried out by U.S. forces. Recently Australians have taken over from the Americans, and are now engaged in expelling the Japs. There are 90,000 enemy soldiers by-passed in the Solomons, New Guinea and New Britain, and the task of their elimination has been allotted to the Australian Army. Substantial forces have, therefore, been committed to these areas and are now dealing with Jap troops, who are well-armed—and in no mood to surrender

**AN ENGINEERING TASK CARRIED OUT BY THE AUSTRALIANS ON BOUGAINVILLE : Troops crossing the Terekina River over a bridge built since the Australian occupation. Substantial forces are committed to this area**

**INFANTRY PASSING THROUGH THE TEREKINA PERIMETER to drive the Japs from Little George Hill within six days of taking over from the Americans**

**FIRING ON A JAPANESE POSITION JUST 100 YARDS AWAY during the successful Australian attack on Little George Hill, a dominating height occupied by the enemy outside the Terekina perimeter on Bougainville Island. The Japs were finally driven out by the Australians**

**WITHIN THE PERIMETER AREA AT TEREKINA, Australian troops, in their off-moments, conduct a big surf festival on the fine beach. Some thousands of troops are now firmly established on the big Pacific island of Bougainville**

**NEW GUINEA: Road-making and bridge-building in the Aitape area presented innumerable difficulties. Australian pioneers, wading around in slush and muddy water, are here constructing a bridge**

**Owing to the jungle tracks being impassable in some places, jeeps used by the Australians in New Guinea are often forced to take to the beach. This one is on its way to the front line at Aitape**

The Aitape area is on the northern coast of New Guinea, where thousands of Japs still remain to be dealt with. They were by-passed by the Americans, so that operations nearer to Japan should not be delayed; but they are well supplied with equipment and food, and their eventual elimination must be carried out. For this purpose troops from Australia have taken over from the Americans, and the pictures reproduced here show incidents during the course of the campaign. The Australians have played a large part in many theatres of war since September 1939, and have fought side by side with British soldiers in many a battle. Now, their principal concern is with areas in the Pacific

**SISTERS FROM AN AUSTRALIAN CASUALTY CLEARING STATION, these four members of the Australian Army Nursing Service have just arrived at Aitape. They were the first to reach this area**

**AUSTRALIAN ARMY NURSES ON THE BEACH AT SEMI-TROPICAL TOWNSVILLE, IN NORTHERN QUEENSLAND: They work nine-and-a-half hours each day for six days a week tending sick and wounded Australians from the fighting zones in New Guinea**

**THE TEMPORARY HOSPITAL OF 500 BEDS HASTILY ERECTED AT TOWNSVILLE (NORTH QUEENSLAND) to help cope with the stream of wounded and sick Australians coming from the Gona and Buna campaigns in pestilential New Guinea**

The hospital still has sand floors, and the patients and nurses still sleep under canvas. Brought out by air transport, battle casualties reached the hospital three or four days after being wounded in the jungle. In the first twelve months since the opening of the hospital, 12,000 Australian soldiers received medical attention here. The nursing staff consists entirely of Australian women, most of whom have the rank of Lieutenants. At Townsville during the wet season—from December to March—it rains practically every day, the average weekly rainfall during these months being two inches: the heat too is unpleasant, so humid is the atmosphere, and special provision has to be made to cool the wards. Townsville was chosen as a hospital site because it is the nearest town of size on the Australian continent to the New Guinea battle-zones

**THE "BATTLE OF THE CAUSEWAYS" AT THE NORTH OF THE BRITISH LINE IN HOLLAND: The flooded areas around Nijmegen, where houses and farms were half-submerged and where all military traffic had to keep to the main roads when amphibious vehicles were not practicable**—*Drawing by H. P. Burton*

# FLOODS and MUD on the WESTERN FRONT

## The Appalling Conditions Under Which the British Army Opened Their New Offensive

—*Special Sphere Drawings*

Actual experience of the fighting conditions on the northernmost sector of the British line at the opening of Montgomery's new offensive impressed correspondents with the fact that the battle had resolved itself into "a war of causeways." The roads leading south-eastwards from Nijmegen are raised only three or four feet above the normal water-level; it was therefore impossible for ordinary tanks and armour to do anything but cling to the dry roads—and only the good ones at that. The inferior roads all too soon became churned out of all recognition.

"There is only one way of fully understanding the limitations the recent flooding has imposed upon our movements in this area," wrote Mr. Christopher Buckley. "That is to do what I did—get into a car and drive straight down the road from Nijmegen to Cleve. That brings home the fact that we are fighting what is, in effect, a causeway war along this sector. The heavy snows of January, followed by the sudden and abrupt thaw, have flooded the meadows on either side of the roads here, but more particularly to the north of the Nijmegen-Cleve road, where the inundations extend continuously all the way to the Rhine.

"Our troops are road-bound here because they cannot possibly be anything else. The fields are far too deep in water to permit infantry to move across or to bivouac in them. The roads are embanked just sufficiently high above the meadows to prevent them being actually submerged in any normal weather. But when you have said that you have said everything, and although the main roads, such as that from Nijmegen to Cleve, are standing up well to the heavy transport, the side lanes are in many places hopelessly clogged with mud. We are, in fact, involved in a war of geography in this sector. The roads fight for us; the water is the ally of the Germans."

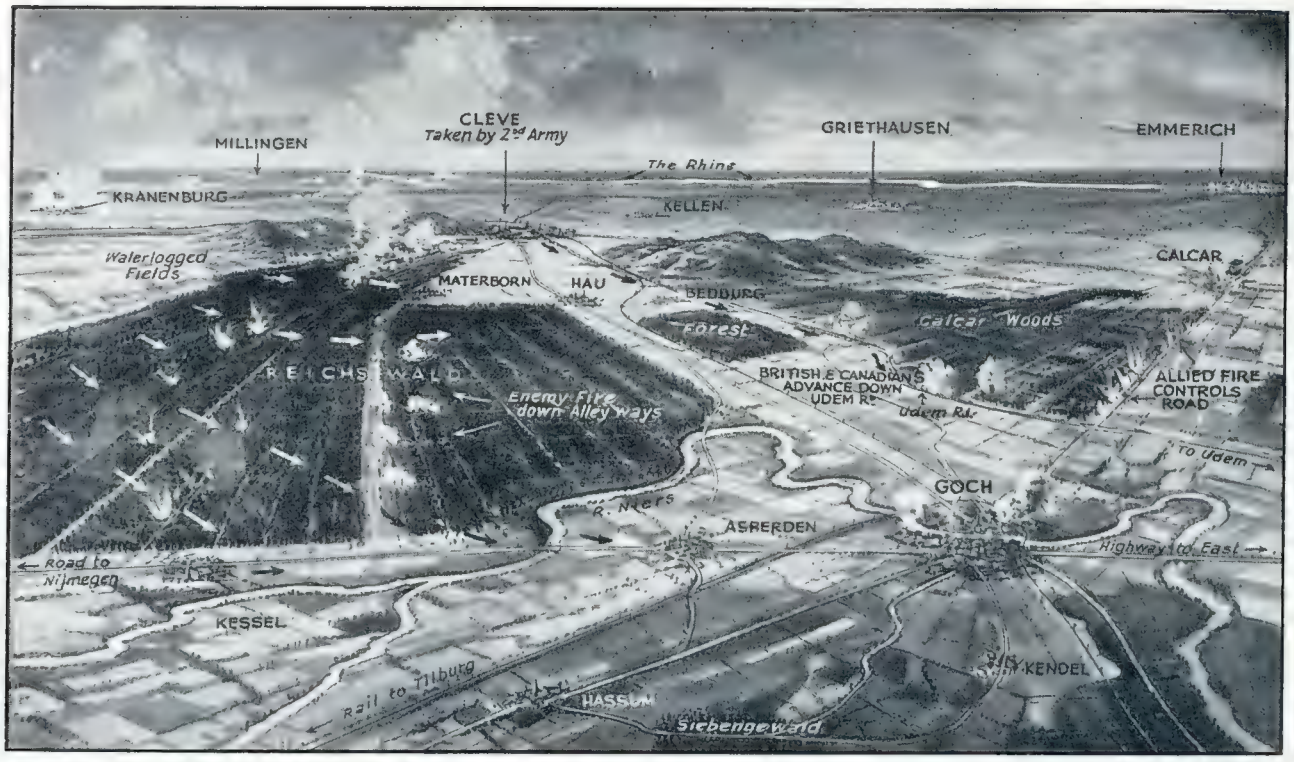
**IN SOME PLACES IT WAS NOT ONLY A BATTLE OF CAUSEWAYS, BUT ALSO A BATTLE OF ISLANDS: British troops who had been holding positions in the flooded villages had to be taken off to higher ground when the waters reached the first-floor level**—*Drawing by W. G. Whitaker*

In the opening phases of Montgomery's northern offensive against the Germans, the causeways were all-important: but then the struggle became a "war of islands." As the waters rose in the area stretching eastwards from Nijmegen towards the old Rhine (where the Germans had control of the dams and dykes), a number of villages and hamlets became increasingly submerged, with the result that the soldiers holding them had to be taken out to drier spots. As soon as the floods rose to the level of the first floor, the villages became untenable. Ducks and other amphibious craft, of which we have very many types—and the enemy none—were sent out, and the temporary garrisons were carried forward to the numerous dry "knuckles" of land along the northern edge of the Reichswald. Water was, in fact, the main enemy; and the floods were encouraged as much as possible by the breaking of the dams. The German troops during this period could do little beyond dropping an occasional shell or mortar from their own advanced "dry points." The "War of the Islands" was a difficult one for the Allies, and a particularly trying time for the infantry

**ON THE EXTREME LEFT FLANK OF THE BRITISH LINE DURING THE ADVANCE TOWARDS CLEVE: Amphibious craft move forward at night aided by searchlights directed on the clouds to provide "artificial moonlight"; an Alligator (on left) and a Weasel are seen in the foreground and Buffaloes in the middle distance**
*—Drawing by W. G. Whitaker*

When the battle for the Siegfried Line around Gennep opened, a cold drizzle was falling on the mud wastes: the whole battle area was bathed in soft grey "artificial moonlight," produced by a great ring of searchlights shining on the scudding rain-clouds. The light caught the church spires showing above the floods and cast long shadows on the water. Down into this lit-up area came great wallowing monsters—amphibious Buffaloes, breathing fire as the helmsmen steered them past the almost submerged roofs of cottages and over perilous obstacles provided by the jagged walls of half-demolished houses hidden beneath the surface. From ahead, the enemy replied to the advance of this British armada with an occasional shell and a few rounds of machine-gun fire, but the floods had driven most of the enemy from the area and the Germans, having no amphibious fleet, were unable to oppose our seizure of the few dry islands. Troop-carrying Alligators and small Weasels also took part in the operations during this strange war

**ONE OF THE WORST ENEMIES OF ALL—MUD: Churchill tanks get into difficulties on the way up to the front line after the thaws had broken up the surface of the roads within the battle zone. The smaller roads just would not take the weight of the unending flow of heavy vehicles, and at many points there were long hold-ups as tanks and lorries had to be hauled out of the mud-holes in which they had become bogged. With the thaw had come heavy rain for days on end, which made the tracks through the Reichswald Forest even worse than they would otherwise have been—***Drawing by E. G. Lambert***




**THROUGH THE REICHSWALD FOREST TO THE BASTION TOWN OF GOCH: The opening of the drive towards Rhenish Prussia**—*Drawing by E. G. Lambert*

## CLEVE and BRISACH

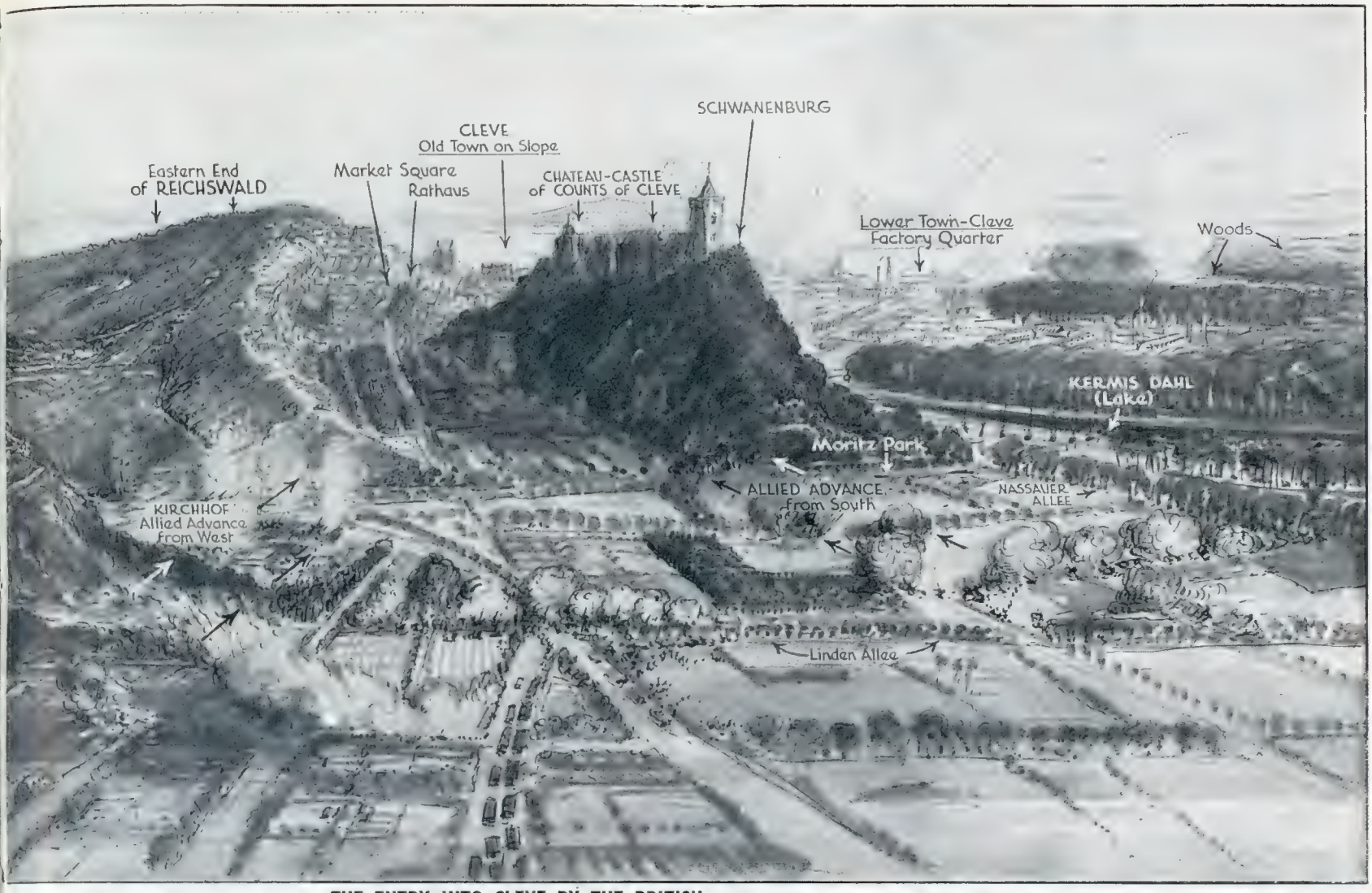
Two Towns Captured on the Western Front by British and American Troops During the Recent Fighting

—*Special Sphere Drawings*

When Field-Marshal Montgomery unleashed his forces—Canadian and British—against the Germans guarding the extremity of north-west Germany, the general advance had to be made through the dense mass of pine forest known as the Reichswald. Boat operations on the flood-waters east of Nijmegen protected the extreme left flank; and various columns penetrated alleyways through the forest towards Cleve, where it rose in a pine-clad wave, and on the other towards Goch and Calcar. Breaking out of the forest, troops attacked Kessel, and made various crossings of the River Niers, not a big stream, but one which could prove awkward in its windings. The road through Asperden, towards Goch, had to be cleared. These operations were carried out in the first fine rush of the offensive. Gradually the German defence stiffened, and the progress of the Allied forces was slower in the vicinity of Goch. Steady progress was, however, made across the Niers in the direction of Calcar through woodland country. Cleve was successfully entered on Sunday, February 11, and Goch on February 19

**THE AMERICAN CAMPAIGN IN SOUTHERN ALSACE: THE NEW BRISACH AND THE OLD BRISACH, where the 20-ft.-high walls of the Vauban fortifications were ladders, as in the olden days. Neuf Brisach is now in American hands; Alt Brisach (on the German side) is held by the enemy**—*Drawing*

An unusual military operation took place near the western bank of the Rhine when the Germans were forced back from the Colmar salient. As a result of these operations in Southern Alsace, Allied troops reached the Rhine; in doing so they had to reduce what was veritably a Vauban fortress of the late seventeenth-century pattern. Neuf Brisach is surrounded with canals and outer works protecting the 20-ft.-high walls of the main system of defence. These the Americans had to surmount with the use of scaling ladders. It was a tough fight, but Neuf Brisach was penetrated and the German garrison retreated to Alt Brisach, on the eastern (German) bank of the Rhine. It was owing to the surrender of the latter position to Austria by Louis XIV that the Vauban fortress came into being. To-day we find the two Brisachs separated by a few miles, one on the low ground and occupied by the Allies, together with the small fort, Mortier, also constructed by Vauban, and Alt Brisach, perched high on a rocky outcrop on the eastern side of the Rhine, still in German hands. In the drawing above, Old




**THE ENTRY INTO CLEVE BY THE BRITISH; THE TOWN ASSOCIATED WITH ANNE OF CLEVES AND LOHENGRIN AND THE SWAN.**
**The Old Town on its commanding hill of Schwanenburg, and the New Town, with its factories, below**—*Drawing by Percy Home*

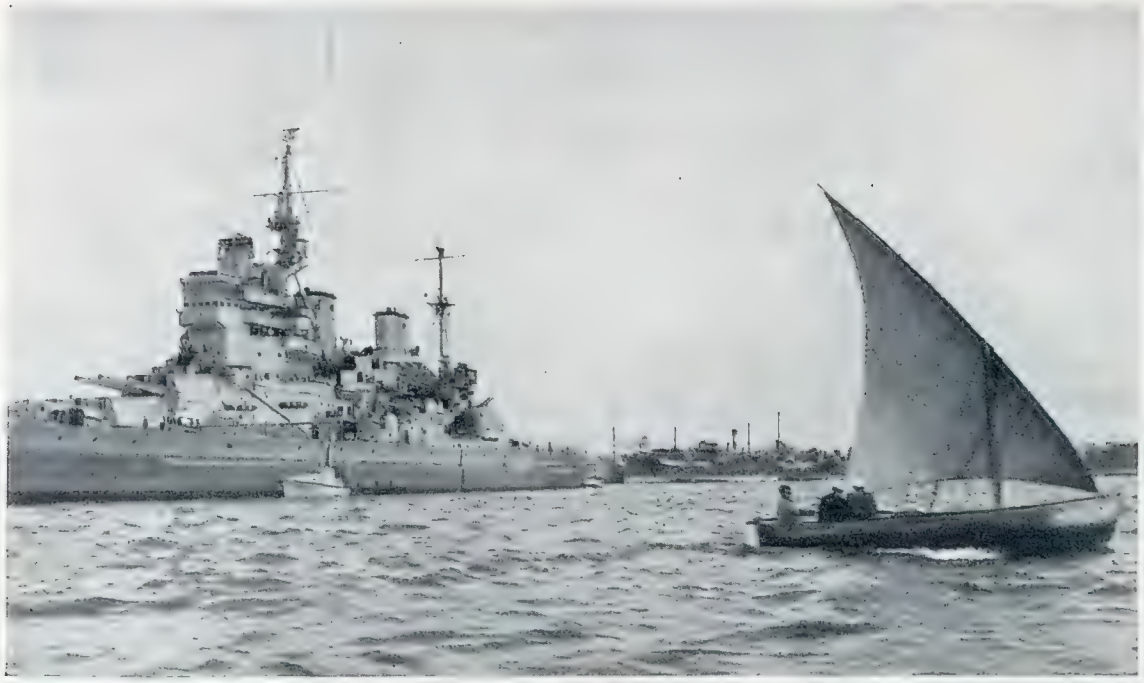
Cleve is the largest town in Germany yet captured by the British. They entered it from the west and south. It was, before the war, a pleasant town, situated on a wooded ridge overlooking the Rhine and the great plain beyond. The towers of Xanten Cathedral could be seen in clear weather. The name of the town is familiar to English ears from the fourth wife of Henry VIII, Anne of Cleves, whose portrait by Holbein had so pleased the King that he had agreed to marry her, only to be chagrined and angry when the Princess proved to be plain and stout. Cleve is also associated with the story of Lohengrin, the mystery knight who alighted from his swanboat below the cliff on which Cleve stands. This quiet little town has now suffered the misfortune of war and has been much bombed on its lower portion stretching towards the Rhine, which once flowed below the cliff, but is now some distance off, connected only by a canal. On the top of the central cliff stands the chateau of the Dukes of Cleve, a picturesque building, though it has lost two of its original towers.

In the view above, the town is seen from the south, with the Schwanenburg Height on the right, rising above the Moritz Park and the tree-lined "allees" of the suburbs. The older part of Cleve is seen sloping down to the waterway which flows past the chateau heights, flanked on the left by the hill ground which bears the eastern edge of the Reichswald. To the right, on the level ground, is the more modern quarter, a district occupied by numerous factories. The Cleverberg Height, seen in the left foreground, was a popular viewpoint

**scaled by the assaulting infantry with**
*by Percy Home*

Brisach appears on the right, with the big basilica church of St. Stefans Minster crowning the height and high-roofed houses below. The railway bridge which appears below a fort-crowned hill is in a shattered condition

**DURING THE FIGHTING IN THE REICHSWALD FOREST, the Scots drive out the Germans from a clearing at the point of the bayonet—an unusual form of combat in this war!**—*Drawing by Roland Davies.* Of all the weapons used by the infantry, the bayonet has been mentioned least of all during the present war. Yet within recent days, and especially in connection with the advance through the Reichswald to Cleve, correspondents have reported engagements in which the British bayonet has figured prominently. The incident depicted above occurred when Scottish troops attacked the Germans and drove them from a clearing in which they were attempting to establish themselves—"one of the very few authentic bayonet charges of the whole campaign," as one war correspondent described it



THE MIGHTY "KING GEORGE V" IN THE EAST: A picture taken at Alexandria on the way out. It is now known that she was in the naval force which took part in the attack carried out by the East Indies Fleet on the Jap oil refineries in Sumatra

# The ROYAL NAVY at Work in MANY WATERS

**Action Pictures from the Pacific, Mediterranean and English Channel**

**—Drawings by *Sphere* Artists**

British naval strength in the Pacific is building up steadily for the final and decisive battles against the Japs, to which this country has more than once been pledged. Recent reports have already indicated the names of some of the vessels co-operating with the Americans in those far-Eastern waters, including ships of the Australian Navy. Included amongst the capital ships is the huge *King George V*, of which two pictures are given on these pages

***On right***—Admiral Portal is fifty years old: he was recently appointed Flag Officer Naval Air Stations (Australia). He has qualified as a pilot in the Fleet Air Arm, and has, in succession, commanded H.M.S. *York* and H.M.S. *Royal Sovereign*: he was promoted to Rear-Admiral in 1943, after having been (at one time) the youngest Captain in the Navy

BRITAIN'S SEA-AIR CHIEF FOR THE FAR EAST—Rear-Admiral Reginald H. Portal, a brother of the Chief of Air Staff, now in Australia

**THE BRITISH NAVY HUNTS PIRATES AROUND THE GREEK COAST: A CAIQUE PATROL-SHIP, UNABLE TO OVERTAKE A SMALLER VESSEL CLOSE INSHORE, has fortunately fallen in with a British M.T.B., which takes up the chase**—*Drawing by Wm. McDowell*

Piracy seems still to be practised in the waters of the Cyclades and Sporades Islands, in the Aegean Sea. To counter it, patrols have been formed of small, armed schooners of the "caique" (small sailing craft) type which had formerly been used against the Germans in the inter-island warfare in the Aegean. They belong mainly to the Greek Navy, but the force also includes a small number of British Royal Navy craft of a similar type and Royal Navy motor-launches. The whole force is under British command. The patrols ensure that normal civilian caique traffic can be resumed without interference. The latest instance of piracy recorded occurred recently some 40 miles off the east coast of the Peloponnesus, when an armed caique stopped and boarded a smaller unarmed vessel which was taken into port in the E.L.A.S.-held zone of the Peloponnesus

**BRITISH AND AUSTRALIAN WARSHIPS NOW OPERATING AGAINST THE JAPANESE IN THE SOUTH-WEST PACIFIC:** The vessels depicted here are (on left) the destroyer "Kempenfelt" (1,400 tons); H.M.A.S. "Australia," cruiser (10,000 tons); the battleship "King George V"; the destroyer "Grenville" (1,485 tons); and an aircraft-carrier (in the far background). Some of these vessels have already been reported as having taken part in actions—*Drawing by Montague Dawson*

**A BRITISH WING COMMANDER LEADS AN ATTACK ON GERMAN SHIPPING OFF USHANT: A SCENE IN R-BOAT ALLEY—while the merchant ships escape, the escorting R-boats attempt to evade the attacking aircraft**—*Drawing by Wm. McDowell*

The Germans know Wing Commander Anthony Gadd, D.F.C. and Bar, as "the terror of R-boat Alley," that stretch of the Channel between Le Havre and Ushant into which swift enemy minelayers and R-boats frequently venture. He has led a number of Beaufighter attacks on enemy shipping in "the alley." During one mission he left an enemy trawler and merchant ship ablaze. Later he successfully attacked three merchant vessels and eight escorts, and subsequently attacked another convoy, destroying one ship and setting another on fire. In a sortie against a large merchant vessel and a German naval auxiliary, his force sank the merchant ship and a minesweeper and damaged several of the escorts. The R-boats are "Raumboote," a small type of motor minesweeper of about 90 tons and 18 knots. These should not be confused with the E-boats, which are much larger, armed with torpedo-tubes and have a speed of about 30 knots

# THE FIGHTER BOMBERS OF No. 83 GROUP

## And Their Amazing Record on the Western Front

By CHARLES GRAVES

*(Just Returned from a Visit to Belgium)*

—In the Field, Belgium.

THE amazing record of successes by 83 Group—this single Group, commanded by Air Vice-Marshal Harry Broadhurst, C.B., D.S.O., D.F.C., has destroyed or damaged 858 tanks, over 7,000 railway trucks, twice that number of German Army lorries, not to mention 1,500 locomotives, 109 ships and 874 barges—is all the more remarkable when it is remembered that (*a*) this Group has also destroyed 800 enemy aircraft since D-Day, and (*b*) has no computation device similar to the bomb-aiming equipment of the medium bombers.

The Spitfires and the Typhoons of 83 Group and 84 Group have really to fire from the hip. It is true that they have gun-sights for their bombs and rockets, but they have no method of automatically assessing their angle of dive, skid, or, in the case of an enemy target, tank or train, the speed of the target. Accurate bombing in the case of single-engined fighter-bombers demands an immense amount of training and good judgment to secure the kind of results for which these pilots are so much feared by the Hun.

Air Vice-Marshal Broadhurst expects only a short margin as the maximum error for a rocket-firing Typhoon aiming at a target several hundred yards away. When a military target at Zutphen was attacked, eighty-one rockets obtained direct hits. On another occasion only twenty-one rockets were required to destroy eight locomotives: 84 Group also has a very high average, and its Typhoons and Spitfires rendered invaluable aid to the Army at Walcheren. Here, in spite of the frightful flying weather, they knocked out the enemy gun positions which had survived all our shelling.

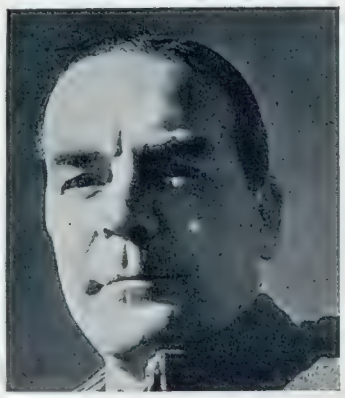
The problem of precision bombing by single-engined aircraft has given rise to many theories, and several experiments have been made with varying successes to overcome the basic disadvantages involved by this type of attack. The main factors affecting accuracy are: (1) the actual speed of attack; (2) the wind speed and direction; (3) height; (4) the trail of the bomb, or time lag.

In level flights, the latest type of bomb-sights produced wonderful results, but in spite of all the research to aid accuracy in real dive-bombing, no single sight which takes into account all the above factors simultaneously has been developed, the lack of cockpit space being the chief difficulty. The obvious method of solving the problem is to do what the Germans did with their Ju. 87's and 88's, which is to equip the aircraft with dive brakes, thus enabling them to dive almost vertically without danger. The British, by contrast, did not consider that bombs on fighters were a necessity until Army close support came into its own. It was only then that a dive-bombing technique had to be evolved.

After perfecting dive angle and speed (a very important matter since the inexperienced pilot may only be diving at 40 degrees when he is diving at 60 degrees), the next problem was to overcome bomb-trail. At one time the technique was to dive at the target and release the bomb just after easing the stick back. This had the effect of chucking the bomb into the target, and was fine as long as only slow aircraft were used. But this method showed decided disadvantages when used with high-speed fighters, for it could lead to a total hang-up of the bombs, or a delayed release, thus causing the bomb to fall very wide of the target when the aircraft assumed its normal flying attitude.

It was decided, therefore, to employ the auxiliary-target method. This means that the pilot does not aim at the actual target, but at an imaginary one at the same distance from the actual target as the distance on the ground between the point of impact of the bomb and the point at which the line of flight of the aircraft would reach the ground (if the aircraft was held in the dive with the gun-sight on the target).

The following example will give some idea of the distance involved. At 400 miles per hour in a 40-degree dive the trail distance of a 500-lb. bomb is, roughly, 400 yards when released at 4,000 ft. This distance increases to 780 yards if the bomb is released at 6,000 ft. without any allowances being made. If, of course, the bomb is released at 3,000 ft., or even 2,000 ft., the margin of error is very much less. Care has to be taken, however, in the choice of rockets or bombs, according to the target. Rockets are obviously not much use for cutting a railway line, but are ideal for destroying trains on railway tracks. Rockets are not much use against strongly-constructed buildings, like barracks, but are ideal against observation posts, tanks, and anything else above ground which is not too heavily protected. Gestapo buildings at Amsterdam and Rotterdam were pin-pointed with great success, and on one occasion 83 Group destroyed enemy armour so close to our lines that the Americans sent a frantic signal to say that their own tanks were being hit. Later they apologised handsomely.



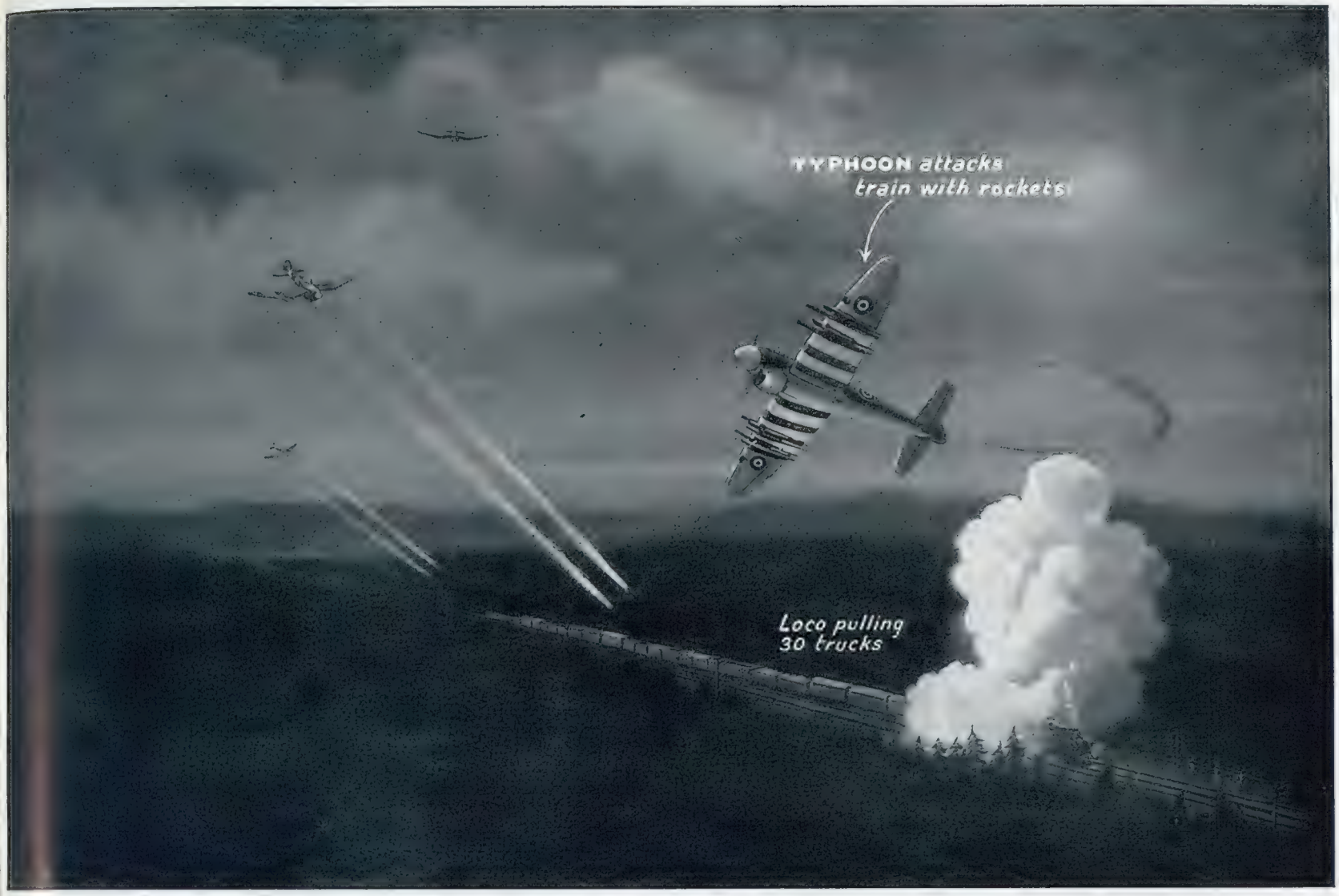
**AIR VICE-MARSHAL H. BROADHURST, D.S.O., D.F.C., A.F.C., who commands No. 83 Group in Belgium. Formerly he was Senior Air Staff officer in the Western Desert**

Fighter-bombers can operate within 200 yards of our lines. Indeed, if there was some natural feature like a canal between the British troops and the Germans, they could tackle a target within 60 yards of our men. This, however, is more or less unnecessary, because the range would be short enough for our mortars to deal with the situation.

The ideal targets, of course, for close-support work by fighter-bombers are troop concentrations, storage dumps, pill-boxes and mortar positions. They (the fighter-bombers) can be called in to assist by an infantry platoon commander on his 18-set via Brigade; even a corporal in charge of seven men could ask for, and secure, assistance which would be furnished through the Forward Control Vehicle. This assistance

**HOW THE FIGHTER-BOMBERS WORK IN GROUPS OF EIGHT, with four aircraft protecting the formation actually carrying out the attack. When the first group have finished, the second four go down with the others acting as cover**—*Drawing by Roland Davies*

The Germans are having the greatest difficulty in arranging their forces to meet the new offensive in the west. Fighter-bombers of the R.A.F. Second T.A.F. are driving much enemy transport off the roads in their intense activity between the Maas and the Ruhr. Transport drivers are quick to dive for cover, but even if they are not hit, German supplies and troops are slowed down and driven into ditches. In clear weather, our men in the front line see formations of eight aircraft breaking into sections when they spot a target. Four peel off to attack, while the other four circle above as cover. On the next job the sections change places, and the aircraft that previously covered go in at tree-top level and shoot up any vehicles they can see. Typhoons, if not called out of the "cab rank" by the Army to attack strong-points, spray the area in front of the Army advance and keep the Germans with their noses to the ground.




**HOW THE ROCKET-FIRING TYPHOONS ARE CALLED UPON BY THE CANNON-FIRING TEMPESTS when it is necessary to shoot-up such a target as a German train—an instance of co-operation by the Second Tactical Air Force of the R.A.F.**—*Drawing by Roland Davies*

Close co-ordination between units of the R.A.F. Second Tactical Air Force enabled Rocket Typhoons to round off an attack begun on a train by Tempests. Tempests sighted a locomotive and thirty trucks near Elton, north of Emmerich. "Another pilot and myself went down and strafed the engine," said one of the pilots engaged in the action "We damaged it and it stopped. Thick woods to the line on either side made it difficult to do a really good cannon-strafing job, so when we got back we reported the position." "Ops" of the Tempests wing contacted "Ops" of a rocket-firing Typhoon wing. The operations officer of the Typhoon wing contacted a squadron already in the air and directed them on to the train target. "We went straight out," said a Typhoon pilot, "and saw the train through a gap in the clouds. Thirty trucks were stationary in the avenue of trees. The engine exploded as the first rockets struck home. Half-a-dozen trucks were left on fire and at least fifteen others seriously damaged"

would be practically instantaneous if the "cab-rank" were running, a "cab-rank" being a section of anything from four up to a squadron of fighter-bombers which orbit every fifteen minutes over a given area looking for opportunity attacks or awaiting direction from the ground.

To be retrospective: last August saw the final break-out of the bridgehead, with the provision of such transport targets as pilots hitherto had only dreamed of. Firstly, on August 7 the fighter-bombers took a hand in crippling the German counter-offensive aimed at Avranches. Finding a large column of vehicles near Mortain, two R/P. Typhoon wings destroyed 89 and damaged 55 A.F.V.s and destroyed 92 and damaged 115 lorries, which helped considerably to take the sting out of the enemy's drive. Later, in the days when the enemy broke away from the Falaise Gap, the roads were full of vehicles. In this month, 239 A.F.V.s and 3,205 vehicles were destroyed and 316 A.F.V.s and 5,162 vehicles damaged by the rockets and cannon of 83 Group. The crossings of the Seine also provided plenty of material at which to shoot, while barges, ferries and their landing-stages were also attacked in order to slow down the retreating enemy. This month too saw the development of improved methods of controlling aircraft from the front lines, such as the Forward Director Post calling aircraft from their aerial cab-rank on to a target within minutes, sometimes seconds, after the target revealed itself; the Contact Car, too, was very helpful in a rapid advance for using a reconnaissance aircraft to spot whether roads and villages were clear of the enemy, and so speeding up the rate of progress of the troops on the ground. The problems of keeping pace with the Army, of constructing new airfields, of repairing bombed-out German airfields, of getting supplies to the airfields over long lines of communications were the most difficult tasks of this month and of September.

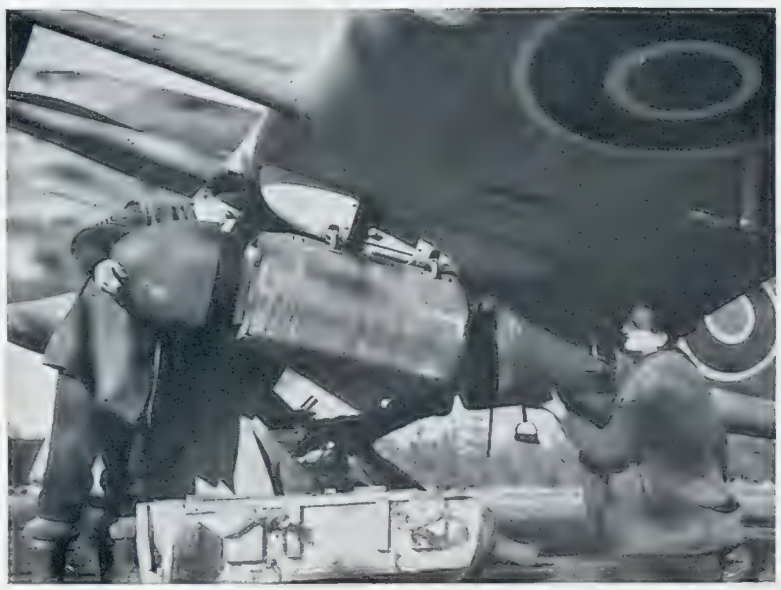
September saw 83 Group in Belgium, with at first little to do in support of the Army, but after September 17, with the air landings in Holland, many close-support tasks were undertaken. In addition, armed reconnaissance was undertaken over the Dutch railways, to prevent the supply of the Fifteenth Army in Holland, together with a programme of cutting rail track on the busiest stretches. The Group provided continuous fighter cover for the vital bridges at Nijmegen, and is able to claim that it, itself, was never put out of commission by enemy air action. Towards the end of the month the German Fighter Force, having rested after its rout from France, intervened in strength in the battle for Nijmegen and Arnhem, particularly on September 27, on which day 83 Group destroyed forty-six aircraft, probably destroyed two and damaged twenty.

October and November found the Group established in Holland, rather crowded on a small number of airfields and kept on the ground all too frequently by the Dutch weather. Railways became the principal targets for its aircraft, both by means of attacking locomotives and rolling-stock and by creating holes in the track. The effect of these efforts can be judged by the fact that the enemy in Germany and Holland was forced to run his trains mainly by night or in non-flying weather, always with considerable flak protection.

When the Second Army required support it was given, as in the attacks on Venraij, Hertogenbosch, Roermond and Venlo, and in the small enemy offensive at Meijel. On the whole, however, the slackening-off of the ground offensive enabled 83 Group in these months to turn its attention to targets farther afield.

The campaign has shown, far more vividly than any of its predecessors, how effective ground-attack aircraft can be in their role of giving close support to ground troops. In particular, the 60-lb. rocket projectile has proved its worth and accuracy in destroying tanks, vehicles and locomotives in the ideal way of removing small buildings, guns and strong-points, and it is perhaps this more than any other factor that drove the enemy off the roads by day and so prevented his moving reinforcements.

To conclude, the accuracy of the fighter-bombers in 84 Group has much to do with the decrease in V-2 fire on Southern England and V-1 attacks on Belgium; it is, too, almost incredible that since D-Day 83 Group has dropped more than 13,000,000 lb. of bombs, and fired more than 6,000,000 lb. of rockets—all from single-engined craft originally intended for fighting the Luftwaffe.



**TYPHOONS ON THE WEST FRONT CARRY A NEW TYPE OF BOMB-LOAD:** Typhoon fighter-bombers of the R.A.F. Second T.A.F. are carrying a new type of bomb-load—clusters of high-explosive, anti-personnel bombs—for use in support of the Army. These explode without causing the craters which would impede the progress of our own ground troops. This picture shows how the new type of bomb-load is fitted to a Typhoon A canister containing twenty-six 20-lb anti-personnel bombs is hoisted on to the bomb-rack, and then the nose and tail units are added One canister is carried under each wing. Those fitted on to the Typhoon in this picture were used in support of our ground forces' advance during the Cleve offensive

# NEW AIRCRAFT OF STRANGE SHAPES

## Some of the Newest Bombers and Fighters from the United States

**THE "BAT-WING" FIGHTER WHICH IS NOW UNDERGOING ITS TESTS IN AMERICA: It has been built on the "flying-wing" principle and is intended for long-distance fighter interception.** This twin-engined aircraft is the McDonnell XP67: it has been designed by the U.S. Army as a long-range interceptor-fighter, and is now undergoing its tests in America to try out flying-wing theories and to satisfy the need for a longer-range interceptor-fighter. The plane is powered with supercharged engines, and its armament consists of six 37-mm. cannon

The astonishing variety of modern aircraft design is well brought out by the photographs reproduced on these pages. Even more astonishing is the fact that all of them have come to hand from the United States within the past week!

Of them all, the Curtiss Ascender—which is still in the experimental stage and being test-flown in America at this moment—is probably the most revolutionary, although a British plane of somewhat similar design has been flying for the past two years.

The Ascender has been built at the St. Louis plant of the Curtiss-Wright Corporation: it was designed as a fighter for the Army and is radically different in many respects from all existing aircraft. A report from New York has described it in the following terms:

"Its engine, a 1,275-h.p. Allison, and its pusher airscrew are behind the pilot's seat, and the wings as

**A NEW AMERICAN BOMBER which combines heavy fire-power with great speed.** Shown here in actual flight, the A26 Invader, newest and fastest all-purpose U.S. bomber, is now seeing action in support of the Allied forces on the Western Front. The Invader, powered by twin 2,000-h.p. engines, is designed to carry a varied selection of guns, cannon or bombs. It can fly with the speed of a fighter and is equipped with ten 50-calibre machine-guns

**A NEW LONG-RANGE FIGHTER which has been developed almost by chance:** The XP75, seen above, started out as a composite of several other kinds of aircraft; but dissimilar parts didn't work out, and changes were made until the plane emerged in its present shape. It is intended by the U.S. Army as a long-range fighter in view of the great need for such aircraft. A 3,000-h.p. Allison engine drives counter-rotating propellers: it is located behind the pilot to allow of better visibility and drives the propellers through a shaft

**THE "FLYING BOMB" APPEARS TO HAVE SERVED AS THE BASIS FOR THE DESIGN OF THIS NEW TYPE OF "PUSHER" PLANE designed by the U.S. Army. At the moment it is still in the experimental stage and undergoing test flights in America**

The XP54 is a twin-boomed, pusher-type plane: it features an electrically-operated elevator to permit the pilot to enter the cockpit. Wing slots cool the Lycoming engine (built "in line"). The plane is made chiefly of aluminium to save weight, has forward-swept wings, thin airfoil, and a flush-riveted skin to lower drag. It is of exceedingly slender proportions, and is equipped with the now-familiar tricycle undercarriage

well are in the rear of the aeroplane. The elevator control surfaces, instead of being in the tail assembly, are forward. The rudders are mounted near the tips of the wings, and the latter come out at a sharp angle from beneath the cockpit.

"This tail-first aeroplane, which is to be called the 'Ascender,' is said to have a speed equal to or greater than that of conventional aeroplanes of equal horse-power; improved longitudinal control and manœuvrability; less noise in the cockpit; improved visibility for the firing guns mounted in the nose; and better handling at high speed because of the elevators' biting cleanly into the wind instead of into the wake of the wings. An unusual device enables the pilot to cut free the airscrew in emergencies and eliminates the risk of being struck by its blades as he bales out."

The U.S. Army does not yet permit disclosure of how fast the aeroplane climbs or how high it can fly.

**THE MOST SENSATIONAL OF ALL THE RECENT AMERICAN AIRCRAFT: The new experimental Curtiss Ascender, or XP55, seen in full flight. The engine and wings are both mounted behind the pilot, with rudders near the wing-tips. A feature of this weird type is the placing of the elevator controls in the nose. As will readily be appreciated, all the weight of this unconventional aircraft is concentrated at the back**

**A HEAD-ON VIEW OF THE XP55 ASCENDER, pusher-type, single-engined, single-seater fighter. This view shows the elevator controls right forward, instead of at the rear. The three-bladed propeller is behind the pilot and can be jettisoned in case of emergency. The aircraft is of all-metal construction** (*see notes above*)

*On left*—**A NEW GIANT TRANSPORT PLANE: The Boeing C97, which has already established a speed record.** This is the transport counterpart of the B29 Super-Fortress: it is the largest and fastest cargo-carrying aircraft now used by the U.S. Army. The huge plane is 110 ft. long and has a wing-span of 141 ft.: it is capable of carrying 100 fully-equipped infantrymen 2,000 miles (3,200 kilometres) non-stop in less than ten hours. On January 9, 1944, it established a new trans-Continental speed record by flying 2,323 airline miles between Seattle, on the west coast, and Washington, the capital, at an average speed of 383 miles an hour. Four Wright radial engines of 2,200 h.p. each give the flying cargo-carrier its great speed and range. With the exception of the huge fuselage (into which a half-ton vehicle can be driven with ease), it is identical with the Super-Fortress. The big aircraft can accommodate two light tanks. The two decks of the plane are built up one on top of the other—in effect, two fuselages joined in the middle

**THE NEWEST NAVY "SEARCH PLANE" which can stay in the air for over twenty hours:** The Privateer, a powerful search and bombing plane, is the latest addition to the American Navy's Air Force. It is a seagoing sister of the B24 Liberator, which has for long been in use for patrols, bombing and search missions. Because it is capable of operating over 3,000 miles and of staying aloft for over twenty hours, the Privateer will be able to cover every part of the Japanese Empire and the waters used by Japan's ships. The twelve ·50 calibre machine-guns, two in each of its six power-driven turrets, make it one of the most heavily-armed aircraft now flying. Its large assortment of new detecting gear, effective through fog and darkness, and navigational and communications radio equipment require at all times the services of two men out of the crew of eleven. The bomb bays are capable of carrying loads of a mixed character, varying from extra petrol tanks to bombs of different sizes, as well as depth-charges for use against submarines. Its four engines give the Privateer a speed of over 250 miles an hour

# WAR SCENES from MANY PARTS OF THE WORLD

A Collection of Pictures from Different Battle Zones in East and West

**ALLIED HEAVIES CARRY OUT THEIR LONGEST BOMBING RAID AGAINST THE JAPANESE IN SIAM: The transhipment base at Chumphon ablaze after some of the aircraft had dropped their bombs—a picture taken from one of the attacking Liberators** (*see note at right*)

***On left and below—***

To attack Chumphon, Japanese supply and transhipment centre on the east coast of the Kra Isthmus, R.A.F. Liberators and B-24's of the Strategic Air Force, Eastern Air Command, flew their longest bombing raid. The distance covered by the aircraft from their Bengal bases was 2,300 miles. The crews were airborne for fifteen hours. The Japanese defences offered no opposition, and all the aircraft returned safely. Chumphon railway station and transhipment sheds were left a mass of flames, and an important bridge on the Bangkok-Singapore railway received a direct hit. Large numbers of railway trucks were destroyed. The importance of Chumphon in the Japanese supply scheme lies in its geographical position in the narrowest point in the Malay Peninsula, 700 miles north of Singapore. The enemy have been bringing up supplies by small coaster vessels through the Gulf of Siam, off-loading at an anchorage near Chumphon and thus relieving the already overburdened Bangkok-Singapore railway

**AMERICAN VEHICLES READY FOR SHIPMENT TO THE VARIOUS WAR ZONES:** Long lines of trucks and other types of motorised equipment fill the storage yards of a giant motor-vehicle processing plant at Boston. Here the vehicles are prepared to withstand exposure to sea, air and water before they are loaded aboard ship. More than 300,000 vehicles of all types have been sent to the European Continent since the first landing in Normandy

**AFTER THE ATTACK ON CHUMPHON, IN THE KRA ISTHMUS: Taken from a very low altitude, this photograph shows some of the Jap military buildings well ablaze** (*see note above*)

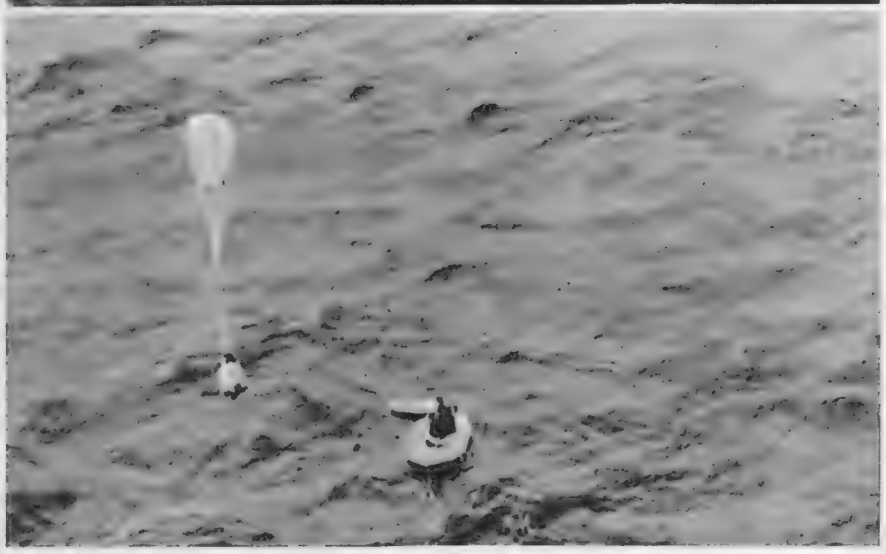
**THE COMMANDER OF THE LAND FORCES IN THE ADRIATIC—Brigadier Davy (second from right) with three of his officers.** Brigadier George Mark Oswald Davy, C.B.E., D.S.O., who has commanded the British Land Forces in the Adriatic since June 1944, was commissioned in the Royal Field Artillery in 1918. Between the wars he had a varied and distinguished career, well suited to the type of amphibious work his troops have been doing during these last few months. With Sir Roger Keyes, he made a dramatic dash to Belgium during the dark days of 1940 in an attempt to bring King Leopold back to Britain. More recently, during the evacuation of Cos, the destroyer from which he was following the operation was torpedoed, and he was in the water for three-and-a-half hours before being picked up. He is always immediately on the spot where his troops are operating, and, as a result, was the first senior officer to return to Greece

**LOOKING DOWN ON THE "PENTAGON" AT WASHINGTON:** This unusual view shows the nerve centre of the U.S. Army, the fabulous Pentagon building. From the air, the roads, approaches and "clover-leaf" intersections make an intricate and curious pattern. The huge parking area for the cars of those who work in the Pentagon is big enough to lay out an airfield. Since the opening of the war with Germany and Japan, the staff accommodated within the Army buildings has gone up by many thousands. A close inspection of this picture will reveal a four-engined plane flying above the building: it belongs to the U.S. Navy Secretary, Mr. Forrestal

**AMERICAN COAST GUARDS CLEAR THE ICE from an Arctic "landing field" off the Greenland coast :** A motor whaleboat from a U.S. Coast Guard vessel rams its keel into a big ice-cake and pushes it away from the cutter to clear the waters off the north-east coast of Greenland for the landing of the ship's reconnaissance plane. Members of the cutter's crew line the rail to watch the operation, supervised by an officer standing on the ice-cake and another in the prow of the whaleboat. Besides being on the alert for enemy activity, Coast Guardsmen on the Greenland patrol keep a constant watch for floating icebergs which menace shipping along the northern sea lanes

**A S.H.A.E.F. VISIT TO THE BELGIAN PREMIER—a scene round the conference table in Brussels :** On February 13, in Brussels, Lieut.-General W. B. Smith, Chief of Staff to the Supreme Commander, together with the British and American Ambassadors, visited the new Belgian Prime Minister, M. Achille Van Acker. From left to right in this picture are seen—Mr. Charles Sawyer, U.S. Ambassador ; Sir Hughe Knatchbull-Hugessen, British Ambassador ; M. Van Acker, Belgian Premier ; Major-General G. W. E. J. Erskine, Head of the S.H.A.E.F. Mission ; and Lieut.-General W. B. Smith, Chief of Staff to the Supreme Commander

**AN AMERICAN LANDING SHIP SERVES AS A MATERNITY WARD after the invasion of Mindoro :** En route to its home base after the invasion of Mindoro Island, in the Philippines, on December 18, L.S.T. 1025 proved its versatility by becoming a maternity ward when an American naval doctor and two assistants delivered a bouncing baby girl (later called Juanita) to a Filipino woman, Maria Demilin. In this picture, the mother is seen on the right anxiously watching as the doctors carefully handle Juanita immediately after her birth. The mother was first brought to the landing ship's sick bay when it made the landing at Mindoro. One of the doctors is evidently blowing air into the baby's lungs as another holds the tiny morsel upside down



**A RESCUE AT SEA during operations over Truk Island, in the Pacific :** A dramatic sea rescue was enacted recently when a group of P-38's of the Seventh Air Force were escorting a flight of Navy reconnaissance planes. One of them, piloted by Lieut. Joseph J. Devons, had one of its motors give out : he turned back, accompanied by a Navy plane. During the home journey the other motor went and Devons was forced into the water near Truk Island, in the Eastern Carolinas. The escort plane then dropped an inflated raft which Devons replaced for his one-man, seat-pack dinghy. He was later picked up by a destroyer. In the upper picture, the aircraft is seen on its homeward journey after the one motor had given out. In the lower picture, a "Gibson Girl" emergency radio-transmitter is seen being lowered to the pilot in the sea

**BLACK MARKET IN ROME : The congested street where thousands of Italians go to buy.** Here is a view of the Via Di Nona, one of the chief black markets of Rome, showing some of the thousands of customers lucky enough to have the money to pay the exorbitant prices asked for merchandise. There was a slackening in business here some time ago, after black-market pastry-shops in the capital had been looted, but business is now once more in full swing

# SOUND WAVES and the V BOMB

## Some Curious and Puzzling Factors Explained

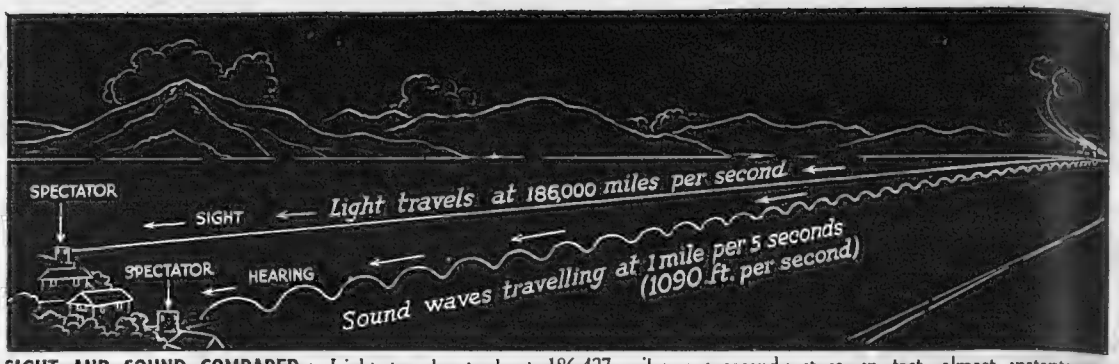
Many readers of THE SPHERE must have been puzzled recently by the way in which the sound of explosions in "Southern England" has travelled over the countryside after a V bomb has burst some distance away. Some people might have heard the report and the subsequent rumble, whilst others even closer to the incident may not have heard it at all. Even when very close at hand, sound appears to behave in a puzzling fashion.

The most important thing to realise is the *slowness* of sound. When sitting at the side of a cricket pitch, it is possible to see the batsman actually strike the ball quite an appreciable time before the click of the stroke is heard. At a greater distance, the time lag between sight and sound is, of course, much more considerable: in fact, in the case of a fast-flying aircraft one can hear the sound coming from a long distance behind the 'plane—because the noise from the propellers has truly been left far behind.

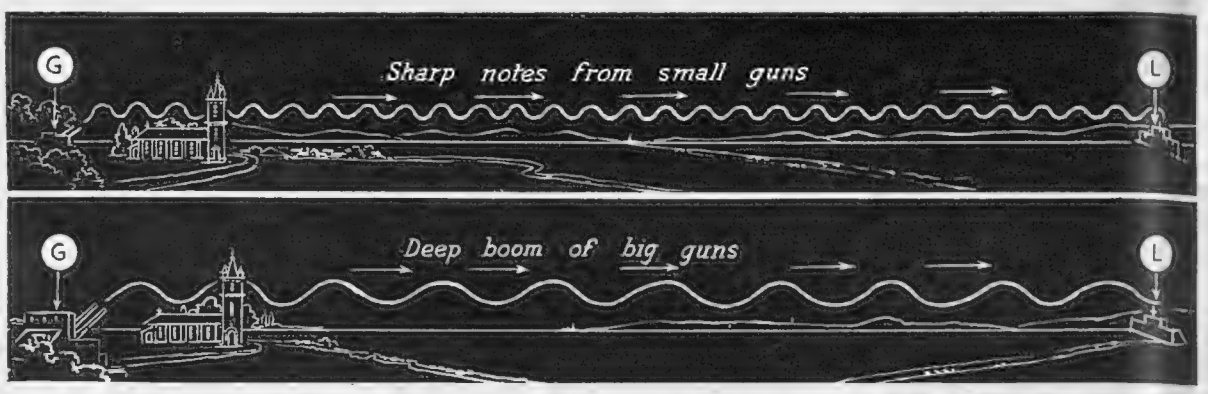
Another important thing is the *undulatory* motion of the sound waves through the air. The sound of the original impact between the V bomb and the earth is conveyed to the ear by a "wave." What happens is best conveyed by watching the ripples when a stone is dropped into the still waters of a pond: circular eddies, or ripples are sent out in all directions to the confines of the pond. In the course of their movement, if the ripples encounter a floating object the latter may rise and fall, but it will not move nearer to the bank—the motion has been purely *undulatory*.

Weather and wind, especially, will affect the reception of sound over a distance. Assume that bells are ringing in a steeple across the other side of the valley: should the wind be blowing towards, or away from, the steeple, so will reception of the sound be affected—even to the extent of creating blind spots, or zones of silence, in certain places. This may explain why some people hear the noise of an explosion when others—comparatively nearby—do not. It may also explain the different intensity of sound according to where the observer may be standing at the moment.

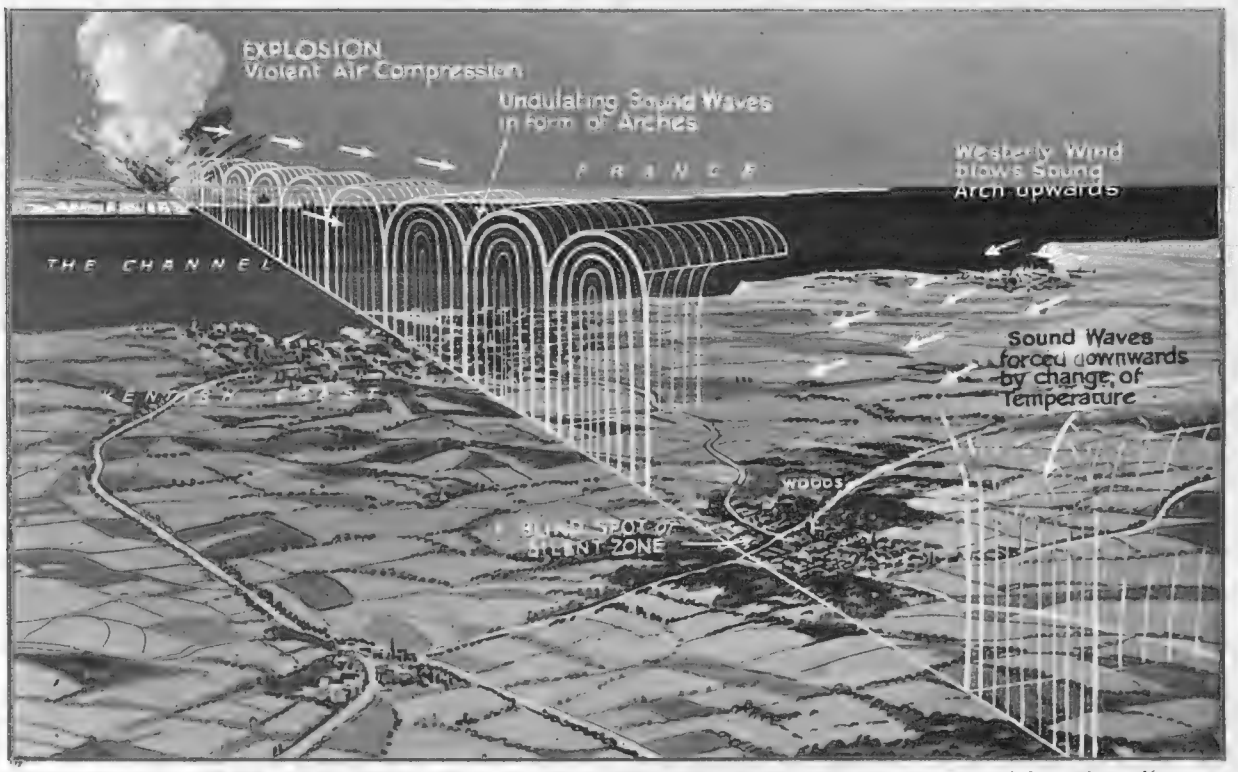
The principles governing sound and its rates of travel are known to the scientist, and much use has been made of them, as indicated in the diagrams given on this page. During the last war, these principles were frequently used when "spotting" for the guns at the front.




**SIGHT AND SOUND COMPARED:** Light travels at about 186,427 miles per second; it is, in fact, almost instantaneous over short distances. Sound travels very much slower—at the rate of only 1,090 ft. per second; in water, however, it speeds up to 4,730 ft. A rise in temperature produces an increase in velocity—the rate being 2 ft. per second for every degree Fahrenheit. Although sound waves are so much slower than light, they may be reflected, refracted and defracted just like light waves



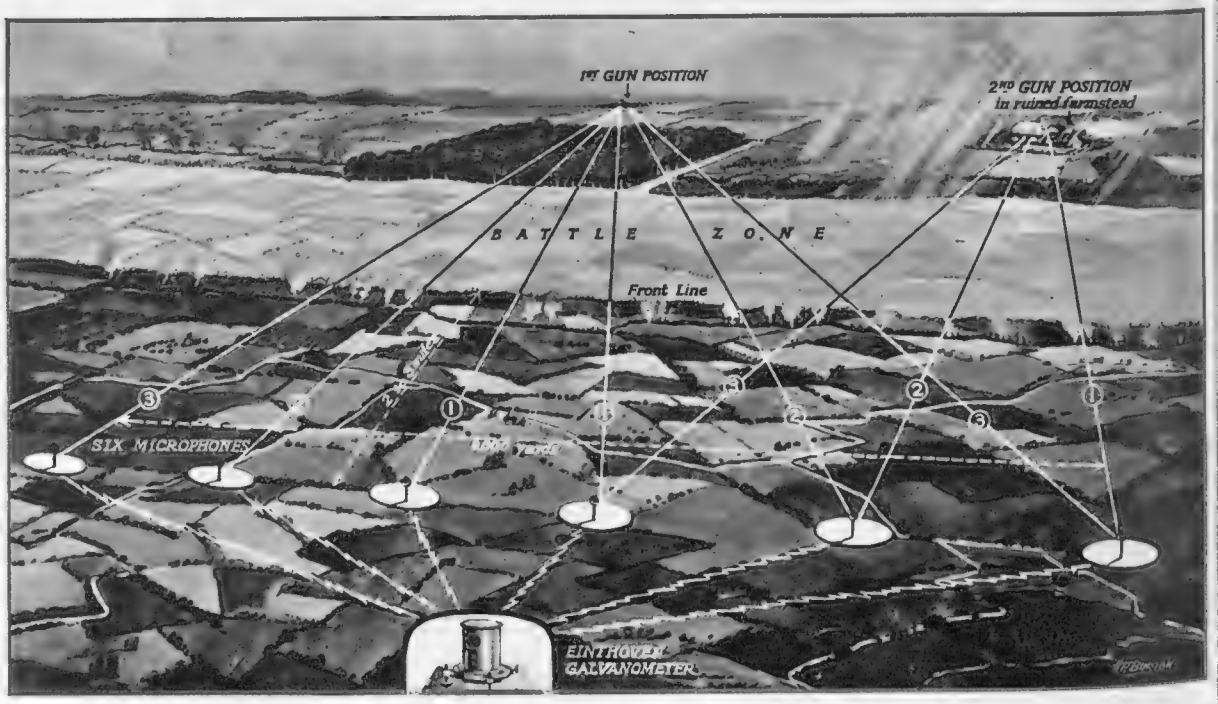

**SOUND TRAVELS IN THE FORM OF AN UNDULATORY WAVE:** In these two views of the sound from small and heavy guns passing through the air, the passage of sound is shown in the form of undulating waves of differing length. The guns set up vibrations, or oscillations, of the air around the area of explosion—these spread out in the manner shown in the two diagrams




**HOW WIND AND TEMPERATURE AFFECT THE PASSAGE OF THE SOUND WAVES: As the latter undulate through space, climatic conditions can cause blind spots, or silent zones, over which the waves pass without making an impression on the ear of an observer below**—*Drawing by E. G. Lambert*

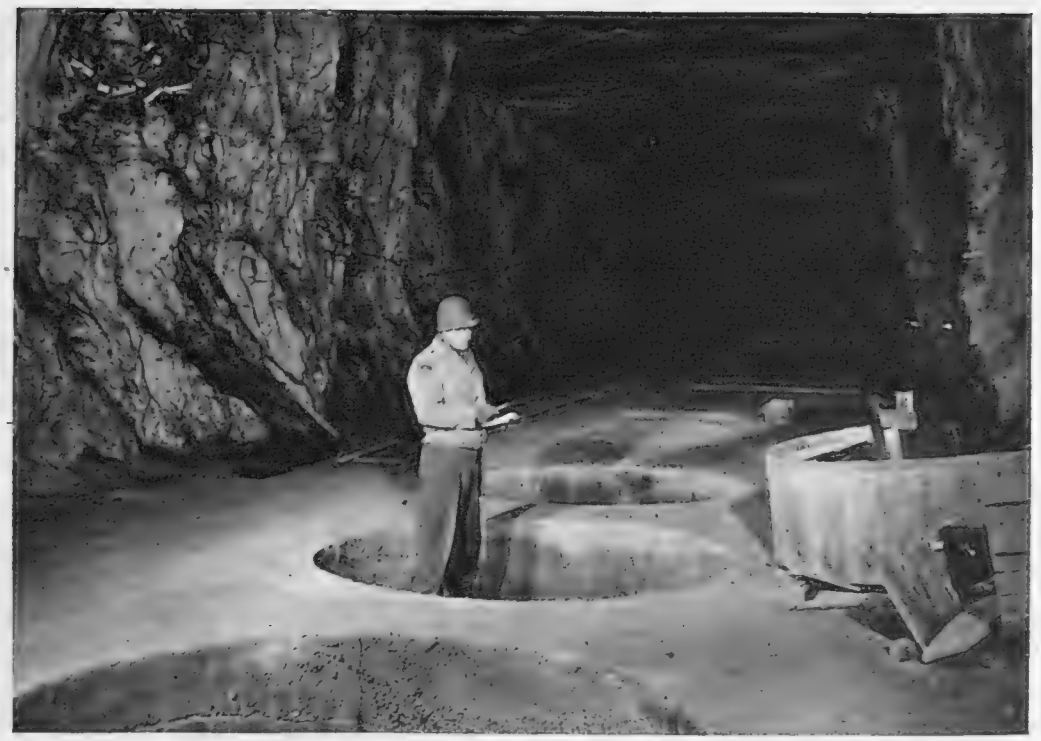
***On right*—HOW SOUND WAVES ARE USED ON THE BATTLEFIELD for spotting gun positions by means of correlated microphones**—*Drawing by H. P. Burton*

During the 1914-18 War six microphones were used, for increased certainty, on a base line about 9,000 yards long, two or three miles behind the front line. They were connected by wires to the six strings of a special Einthoven galvanometer, situated in a dug-out about one mile farther back from the front line. The galvanometer consists of six strings (each connected to one of the microphones) stretched at right angles to a strong magnetic field. When a current passes through one of the strings, the latter is displaced and vibrates. Shadows of the strings are thrown through a fine slit by a lamp and system of lenses on to a moving photographic film. The whole apparatus was "switched on" by an advanced observer or "sentry microphone" as soon as he heard the report of an enemy gun. Towards the end of the war the apparatus had been so perfected that the film was automatically developed and fixed, enabling the location of an enemy gun to be worked out in a few minutes. The value of the velocity of sound used in the calculations had to be corrected for the temperature and humidity of the air, and the direction and velocity of the wind. Nevertheless, guns situated from three to ten miles from the microphone could be located to within about 100 yards



# A CAPTURED V FACTORY IN FRANCE

THE ENTRANCE TO THE GERMAN FACTORY established in the former iron-mine at Thil, in France. This was the spot where German V bombs were made by slave labour before its capture by the Americans



THE ACID VATS IN THE UNDERGROUND FACTORY AT THIL : Eight thousand workers were employed here, to turn out 200 V bombs each day. An American war correspondent is here inspecting the factory

A PILE OF "MIDDLE SECTIONS" FOR THE FLYING BOMBS : In the foreground are wing parts waiting to be assembled by the workers brought in by the Todt labour organisation

A CLOSE-UP VIEW OF SOME OF THE V-BOMB PARTS found in the factory : The whole project was carried out by the Germans on modern, up-to-date, mass-production lines

TWO VIEWS OF SOME OF THE UP-TO-DATE MACHINERY BROUGHT IN BY THE GERMANS TO MAKE THE V BOMBS : Hundreds of lathes, electric drills, stamping machines, electric engines and miles of narrow-gauge railway lines were installed

During the course of operations in France and Belgium (and again, recently, in Silesia) the Allies have captured a number of installations such as the above. The exact number has never been made public : nor have pictures previously been published showing views of the installations. Those reproduced here have only just been released : they were taken at the Mine de Thil, in France, where 8,000 Todt workers were employed, to turn out 200 V bombs daily. As far back as September, Mr. Cornelius Ryan (writing from Luxembourg) said : "This vast, tunnelled underground factory could have produced, it is estimated, 500 flying bombs a day. A staff of 15,000 forced labourers was eventually to have worked there. But the Americans' advance was too fast, and mass production never started. Situated in an old French iron-mine, the factory was No. 1 on the German priority list. It covers an area of 62 acres. With typical German thoroughness and efficiency, Hitler's architect, Speer, brought the powerful Todt labour organisation into operation. Together with these workers, more than 6,000 slave labourers, comprising Russians, Poles, Czechs, Dutch, Norwegians, Serbs and Italians, were thrown into the project. The mine shafts, which were only originally 12 ft. high and about 8 to 10 ft. wide, were enlarged to 30 ft. in height and 40 ft. wide. The propped-up tunnels were concreted, widened and made large enough for the quick transportation of the completed flying bombs. The factory itself was run on the lines of some of the world's largest automobile factories. Everything was on a mass-production basis, but it was virtually a prison for the unfortunate people who slaved there. They never saw the light of day from the time they entered to the time the Nazis fled on September 1. People living near the mine knew that something was being built when they saw masses of equipment arriving estimated to be worth millions of pounds. Hundreds of lathes, electric drills, stamping machines, electric engines, miles of narrow-gauge railway lines, thousands of tons of aluminium wire and electrical equipment arrived. Hundreds of men and women disappeared down the shafts, never to be seen again"

# ENTERTAINERS AT THE FRONT

## In the Burma and Italy Battle Zones

**A N.A.A.F.I. GIRL CLERK WHO IS THE NEWEST FILM DISCOVERY :** Miss Ivy Milton has just started her film career by taking part in a new Powell-Pressburger production, *I Know Where I'm Going*. She comes from Caerphilly, in Wales : as the film takes place on the Hebridean island of Mull, she has had to learn the Eightsome Reel and Schottische to the music of kilted pipers. The film director, Michael Powell, was one of the judges at a Film Talent Contest at the Wembley Town Hall, when Miss Milton was selected winner out of six finalists : when he was casting his new film, he remembered her. As a result, the former N.A.A.F.I. girl is now on her way to film fame

**PANTOMIME IN ITALY BY AN ALL-SOLDIER CAST : Two of the comedians in "Ali Baba," a pantomime produced by an Army Group, Royal Artillery—Bombardier E. A. Baldwin (of Hayes, Middlesex) and Bombardier J. T. Grocott (of Stoke-on-Trent) :** There are 400 hearty laughs in *Ali Baba*, front-line pantomime of an Army Group, Royal Artillery, with the Eighth Army in Italy. A "best-seller" in troop entertainment, the show has not a single woman in its hand-picked company of seventy. The show is manned by gunners from regiments which were in the line until shortly before Christmas. Many of the players were summoned from their posts by wireless to take part in the production. The battlefield was combed for suitable talent, and three officers and seventy men were brought out of action to take part in the ambitious production. *Ali Baba* started from scratch and in four weeks was at dress-rehearsal stage. The show has a sixteen-piece orchestra, an "entrancing ballet," colourful costumes and realistic scenery. It cost only £70. Seven three-tonner trucks and a tank-transporter—a captured vehicle—are required to tour the company, props and scenery. *Ali Baba*, having completed a highly-successful run in front-line towns in the Eighth Army sector, played a week in Rome before moving to Naples and other big centres

**ENTERTAINING THE TROOPS IN THE BURMA JUNGLE : Kenway and Young carry on with their personal domestic arrangements whilst living under canvas during their tour of the Fourteenth Army front line**

The two British radio comedians, Nan Kenway and Douglas Young, are E.N.S.A. artistes now touring the battle area in Burma. During their stay with the Fourteenth Army they have raised the spirits of many sick and wounded men and have also been right up into the front line. Like all artistes from Britain, the team have received a tremendous reception from the troops

**THE SWING QUARTET IN "ALI BABA" : Violin—Gunner-Surveyor G. Snashall (Croxley Green, Watford) ; guitar—Lance-Bombardier K. Carter (Edmonton) ; double bass—Gunner E. Donegan (Wickham, Kent)**

**THE PRODUCER, LANCE-BOMBARDIER CARTER (of Kensington), goes over the script with the "Princess," Gunner A. W. Halls (of Hounslow), and "Ali Baba," Captain G. Leaman (of Shaftesbury), who was in charge of an observation post when he was recalled**

**THE BRITISH FORCES' RADIO STATION IN ROME : Trooper Finnis (of Acton Green, London) broadcasting during Audition Night**

The British Forces' Radio Station in Rome has a large "listening public" among the Forces and, in particular, has become an integral part of the lighter side of hospital life in the area it covers. The station opened a few days after the liberation of the city, using the mobile transmitter and equipment with which it had been entertaining forces on the way up. A little later, this mobile team pushed on to join the forward troops, and a new unit with new equipment took over the Rome Station. The Army Broadcasting Service, of which the Rome Station is a part, is made up entirely of Service personnel drawn from every type of unit. It has been its main object to provide broadcasting stations which the Forces will feel are their own. Rome Station has now linked itself by outside broadcast lines to the Forces' clubs and theatres in the city. In this way, and by broadcasts from its own studios, it supplements its recorded programmes and programmes re-broadcast from the B.B.C. The Army Broadcasting Service now operates stations in Algiers, Barim, Naples, Rome and Cesena

**OTHER SOLDIER-PERFORMERS IN ROME : Lance-Corporal Rosea (of Hampstead), Private Prescott (of Erith, Kent) and Driver Maynard (of Fensby, Wirral) before the microphone**

# Mainly HOUSING —and CHILD WELFARE

## Home News Items in Pictures

**THE AMERICAN-BUILT HUTMENTS FOR BOMBED-OUT FAMILIES IN LAMBETH : A general view of the little community in Loughborough Gardens (at the corner of Loughborough Road and Minnet Road), where fourteen Lambeth families are taking up residence**

At the present moment, a number of bombed-out families from Lambeth are actively engaged in settling down into the little "village" seen in the picture on the left. They are moving from the air-raid shelters which have hitherto served them as homes. "Loughborough Gardens" is the name given by the Corporation to the circle of fourteen hutments which were erected by American soldiers at the corner of Loughborough and Minnet Roads.

Concrete paths join the hutments and trees grow on and around the site. Built of curved asbestos (not corrugated iron), each hut has two bedrooms (measuring 9 ft. by 10 ft.), a combined living- and dining-room (10 ft. by 12 ft.) and a kitchenette (9 ft. by 12 ft.). There is a gas-stove, a brick fireplace and running water. The Americans are responsible for the erection of thirty-eight of these hutments, and they are erecting more than 330 in all, in Lambeth.

**A COUNTRY HOME FOR SERVICEMEN'S CHILDREN : The Matron takes some of the children out for a walk in the beautiful grounds.** Nettleden Lodge, at Hemel Hempstead, is a S.S.A.F.A. Emergency Home for Servicemen's children deprived of their mothers' care for such reasons as death, prolonged illness, etc. The house stands in 43 acres of ground in an area regarded as safe, with lovely playgrounds, including a big, covered shed for games on wet days. The house is four miles from Hemel Hempstead. There are about thirty children there in charge of an experienced Matron and staff, and everything possible is done for the happiness, health and general well-being of the children sent there ; they remain until permanent homes with relatives, or in one of the many excellent children's homes already existing, can be arranged for them

**A TUBE TO LIGHT THE TUBE—an experiment by London Transport at Piccadilly :** London Transport is experimenting at Piccadilly Circus Station with a new form of lighting. Two glass tubes, each 5 ft. long, are assembled side by side in the centre of the roof, at one end of the west-bound platform (Piccadilly Line), to light the platform and track. The lighting, which is of fluorescent type, gives a natural daylight effect and does not throw shadows. If necessary, similar lighting will be installed over the whole of the west-bound platform for an extended trial

**AT AN "APPROVED SCHOOL" : One of the younger boys at his books. When they first come, some of them cannot read or write, or even tell the time.** The whole question of special schools and special treatment for juvenile delinquents is now engaging the attention of those concerned with the welfare of "difficult" or neglected children. Somewhere around 10,000 boys and girls, whose ages range from ten, or even a little younger, up to seventeen, are undergoing training in special schools up and down the country. These children come under the heading of juvenile delinquents, and the schools are officially known as "Approved Schools." The majority of the inmates—who have been sent there by the courts because they have been found guilty of some breach of the law—are put on the way to becoming useful citizens. These two pictures were taken recently at one of these special institutions

**A SCENE IN ONE OF THE CLASSROOMS IN AN "APPROVED SCHOOL" : The surroundings are considered to be an important part in the boys' education ; some "approved schools," therefore, are in former country houses amidst beautiful rural scenes**

The World of Books—By Vernon Fane

# NEW EFFORTS in PROSE, POEM and FICTION

*A Mixed Selection of Recently Published Books to Suit All Tastes*

THE trouble with Mr. James Drawbell's NIGHT AND DAY (Hutchinson. 10s. 6d.) is that it is endlessly readable and endlessly quotable, and for the latter at least there is no room with present-day paper exigencies. The reading—and re-reading—part is much easier to deal with—in fact, it 's a pleasure. The author has described this as a bedside book, and in a sense that is apt, since it is a miscellany of anecdote, opinion, jokes and mind-pictures that is most rewarding to the dipper-in. In another sense, it is far from being the kind of soporific stuff that a doctor might prescribe. There 's no cure for insomnia here!

Some of Mr. Drawbell's best stories concern celebrities, though that fact alone is not the reason for the anecdotes' merits. He has equally entertaining things to write about the anonymous, and you may like his story of the two old ladies as much as I did. "It was in the first uncertain days of the attacks on London by flying bombs. 'It 's all so different from the other raids—so much quieter—the guns don't fire this time; such a blessing.' 'Oh, do you think so, dear? I always think the guns are such a *homely* sound!'"

And here 's a story about Robert Montgomery's coloured servant in Hollywood, who was heard by that distinguished actor answering the telephone: "Yes, suh," said the man into the mouthpiece. "It sure is. It sure is." And he put down the telephone.

Again the bell rang; again the servant said: "Yes, suh, it sure is! It sure is!"

Once more the 'phone bell tinkled. "It sure is!" said the servant into the mouthpiece. "It sure is!"

Montgomery looked up. "What 's all this about?" he asked.

The servant grinned. "Man keeps saying to me 'Long distance to New York,' and I agree with him—it sure is!"

In a more serious vein, Mr. Drawbell has some excellent stories to tell of Robert Blatchford, and of Lady Oxford; of Edda Ciano and H. L. Mencken and Wendell Willkie. His taste is catholic and his acquaintanceship vast. He is primarily interested in people, what they think, what they do, even what they say. Yes, perhaps that is Mr. Drawbell's finest quality. He is that rare thing: a listener.

It is a real pleasure to see a new book by Mr. Oliver Onions once more; it seems an age, and is, in fact, a number of years, since he wrote a full-length novel, and THE STORY OF RAGGED ROBYN (Michael Joseph. 8s. 6d.) is all the more welcome for that. It is a romantic affair, the reconstruction of the legendary tale of Ragged Robyn, a boy who is haunted by a band of smugglers who swear vengeance on him for what they consider to be an act of treachery.

**THE REHABILITATION OF FLORENCE:** Lieut.-Commander M. L. Greenleaves, the British Consul to Florence. He was Consul in that city till June 1940, and has now been released from his position in the Royal Navy for the purpose of returning to his old job in the recently-reopened British Consulate in Florence ministering to the needs of the 500-odd British nationals still resident in that city

The period is presumably about the time of the Restoration, and the setting the Lincolnshire fens, where young Robyn, a farmer's son, is threatened by a gang of smugglers and told to bring them his father's best four horses, under pain of death. Very frightened, he blurts out the story to his father, who is able to waylay the smugglers and kill two of them. From then on Robyn lives under their curse, and never forgets it even when he is away, apprenticed to a stonemason, and falling in love with a noble patron's daughter.

In the end, Robyn returns to his own home, since he may not marry the young girl, and there the smugglers find him, and, having long and relentless memories, threaten to torture him. To escape this and to end a haunted life, young Robyn shoots himself and the story closes in a dream of tragedy. In all this, the writing has the author's characteristic feeling for the subtleties and poetry of atmosphere, and although the action often lacks definition and what movement there is is concentrated at the beginning and end of the tale, it is still a distinguished piece of work, and one to savour and appreciate.

**BRITAIN'S GUERILLA CHIEF:** Exploits that read like a schoolboy thriller were recounted by Lieut.-Colonel Paddy Mayne, an Irishman, during his recent short stay in London. Lieut.-Colonel Mayne is Chief of the Special Air Service Operators—a phantom army which has been operating for the past three years behind enemy lines, ambushing road convoys and causing confusion and destruction. With only a mental map of the country, Lieut.-Colonel Mayne parachuted into France a month after D-Day, and with the help of the Maquis set up headquarters for his army of 200, whom he met in Normandy. This army of Special Air Service Operators piled into fifty jeeps, and Mayne led them through the German lines to Nievre, south-east of Paris. From there he harassed enemy troop and supply columns en route to pressure-points in Normandy, and intercepted and disorganised the Germans when they retreated following the American break-through. He and his men wrecked more than 1,000 Nazi supply trucks during this operation. Lieut.-Colonel Mayne has conducted this type of guerilla warfare since the North African campaign, when he and his men attacked airfields and destroyed enemy planes by planting time-bombs in the petrol-tanks. Lieut.-Colonel Mayne himself destroyed forty-seven

NORTHERN ESCORT (Allen and Unwin. 6s.) is a soberly-written, powerful documentary of the day-by-day struggle of a destroyer, which is part of the escort of a convoy to Russia carrying armaments. The captain of the destroyer has never known very much about Russia. His ideas have been coloured by the old-fashioned "Bolshie" propaganda, but now, in command of a convoy destroyer, he realises that Russia must be helped to keep fighting at all costs.

And somewhere on shore at German headquarters there are men who know that the convoy is on its way, and that it must be sunk. The best pilots are sent in, with the special blessing of the Führer. Thus the fight begins. Ship after ship in the convoy goes to the bottom. The destroyer is hit again and again, but gamely she continues to hit back.

Eventually, it seems that nothing can save the ship. But at the crucial moment a trawler comes out of the smoke of battle and rams the submarine—twice. And so some of the convoy get to Russian ports. The destroyer mourns her dead and licks her wounds. The captain knows that this is only one voyage. It will have to be done again and again, if the Red Army is to beat the Nazis.

Of all the verses in Sir William Beach Thomas' charming little volume, POEMS OF A COUNTRYMAN (Joseph. 6s.), I found one with a simple lyricism that is infinitely satisfying. In the calendar of the countryman's year, it is under June, and it sings the writer's "little bit of river."

"Fishes move from weedy holes,
Hush! I see the busy voles
(Pretty beasts, whose silken hair
Prisons drops of silver air),
Munching sedge and playing tricks.
Such a little bit of river
Countless pleasures can deliver.
Happy may I sit beside it,
Where the elm trunk fell astride it,
Till I cross the River Styx."

The initials "B. T." at the foot of a certain column of country notes in a Sunday newspaper mean a great deal to the appreciative reader; a whole world of country sounds and sights and smells, and the brilliance of the trained observer who is both born naturalist and born writer. These are the qualities which, in the distillation of poetry, are present in this book.

TRIPLE MIRROR (Heinemann. 7s. 6d.) is by far the most complete and satisfying novel that Miss Kathleen Wallace has written for some years. It has form, sustained action, humour and no more than a permissible tinge of sentiment to gild it. The story has a setting of China towards the end of the last century, and concerns the relationships between a group of English missionaries and Civil Servants and their Chinese friends. The liveliest and the most attractive character is the much-chaperoned daughter of an English family who breaks an eminently-suitable engagement to marry a Government official.

They sail together, accompanied by an elderly, resolute and likeable spinster acquaintance who intends to devote the rest of her life to mission work there. The rest of their story is one of adjustments to mental and emotional demands, to the incidence of great physical danger and to the thousand-and-one changes of everyday routine to which they must accustom themselves. If this sounds a dull or a passive proposition, you are under-estimating Miss Wallace's talent for story-telling.

The three newest publications in the series "Britain in Pictures" are very well up to the high standard that has been set by the existing sixty-odd volumes. I would single out THE ENGLISH BALLET for especial comment, partly for its letterpress, written by Mr. W. J. Turner, who is also the editor of the whole admirable series, and partly for its enchanting illustrations.

BRITISH BOTANISTS, by Mr. John Gilmour, will perhaps be more widely popular, and I must warn the publishers that it is going to be very difficult to resist mutilating the book by taking out one or two of the coloured plates for framing. My own choice would be—if ever I were to treat a book so badly—the reproduction of the delicate wild geranium near the beginning of the book.

ENGLISH POTTERY AND CHINA, by Lady Sempill, is another charming production, and again the editor has chosen an acknowledged expert to write on her subject. The books are published by Collins at 4s. 6d. each.

**A FUTURE SOVIET FOREIGN SECRETARY?** Selected by M. Molotov as "a most promising pupil," twenty-five-year-old M. M. Troyanovsky, interpreter at the World Trade Union Conference in London, may be the Soviet Foreign Secretary within the next few years. This view was expressed by a Soviet delegate to the Conference when he commented on M. Troyanovsky's remarkable linguistic abilities. He can interpret speeches in six languages. In 1933, his father went to the United States as the first Soviet Ambassador

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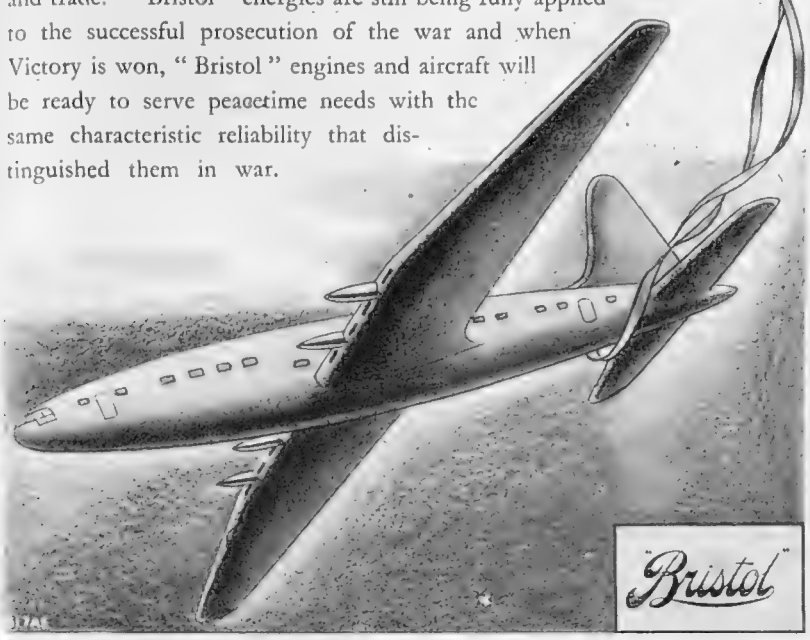


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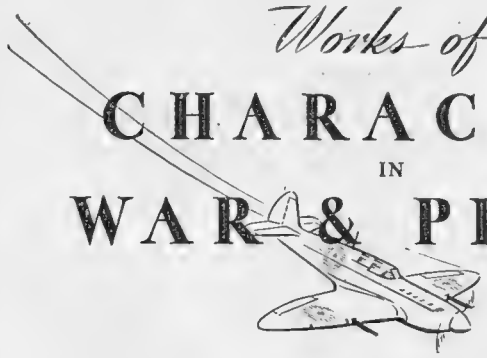

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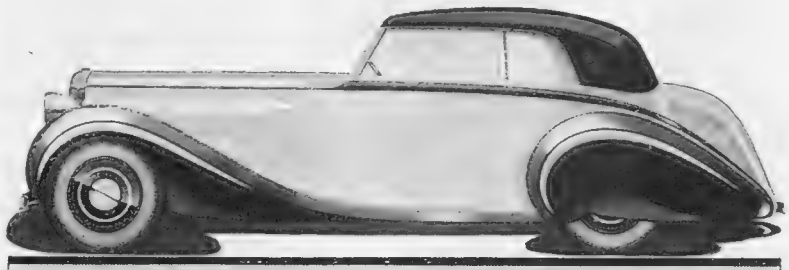

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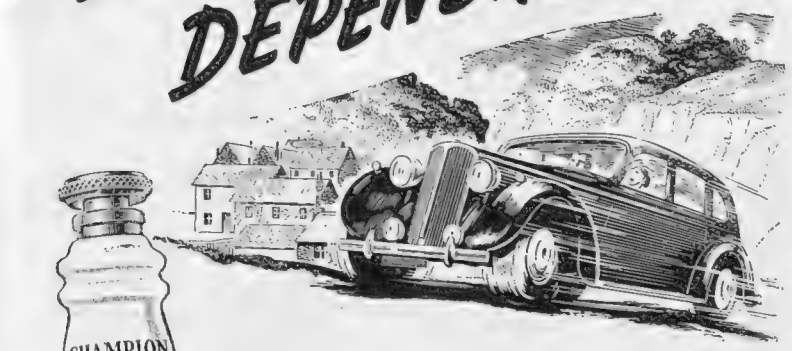

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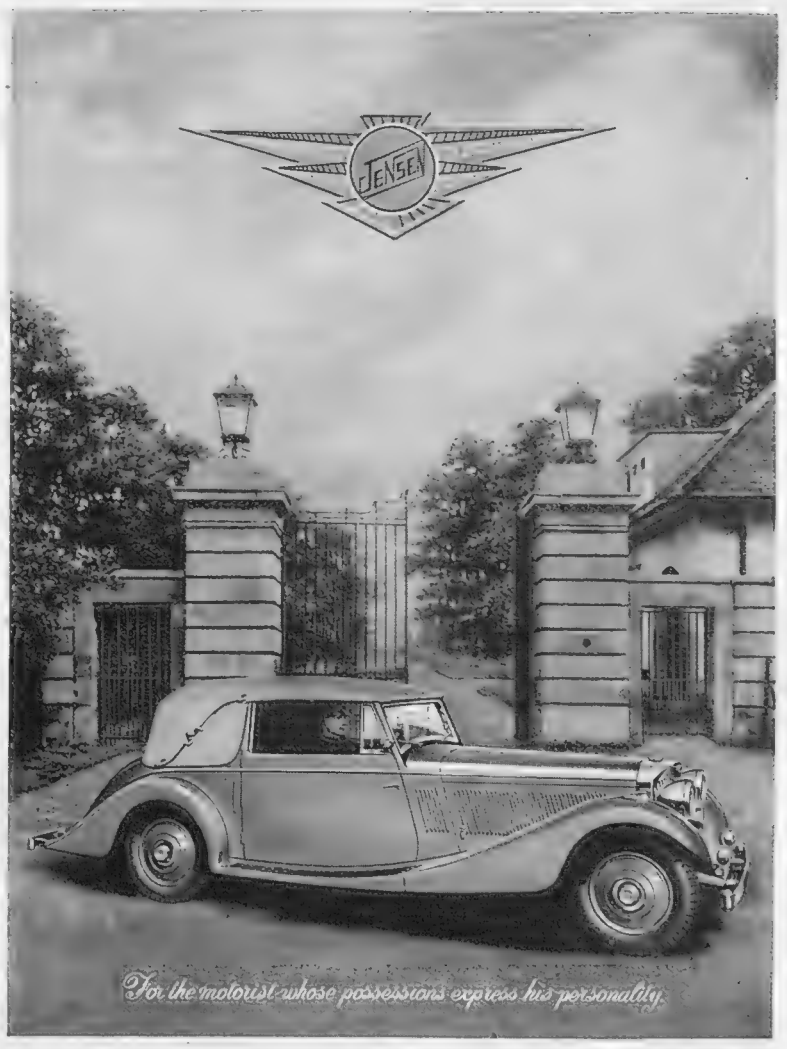


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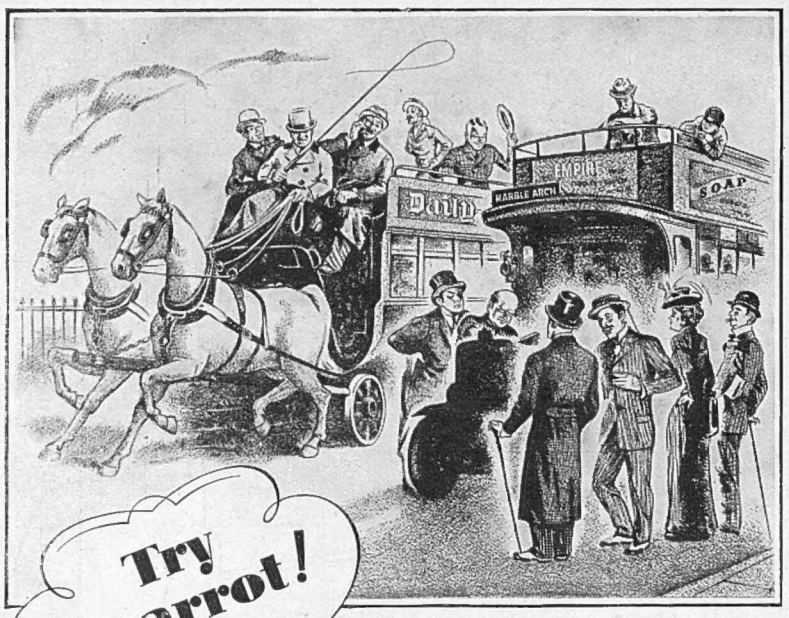


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ADVICE BY ASHLEY COURTENAY

*Letters, accompanied by a stamped, addressed envelope for reply, should be addressed to him c/o The Editor, THE SPHERE, Commonwealth House, 1, New Oxford Street, London, W.C.1.*

Unlike the new Opera House at Stockholm which has expanding and contracting walls, the

**NORFOLK HOTEL, BOURNEMOUTH**

**One of Britain's finest hotels**

has as yet no such facilities, so Mr. and Mrs. F. J. McInnes, the active proprietors, regret that they have so often to refuse would-be visitors.

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A warm, comfortable, country house hotel. One minute's walk from Leatherhead Station with direct train service to Victoria or Waterloo. A convenient Dormy House for the London war-worker. No accommodation available at present. Telephone: 2271.

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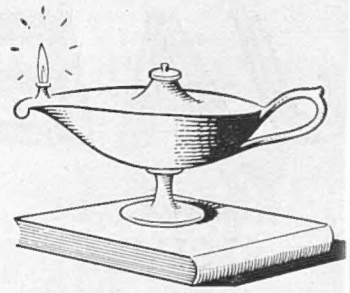

*"In the present state of medical knowledge..."*

If time could indeed "run back and fetch again the age of gold" we should have no need of nerve tonics: life in those mythical days was its own tonic and Nature was every man's doctor. The sterner times in which we live may well take toll of the strongest nerves. That is why doctors nowadays are prescribing 'Sanatogen' Nerve Tonic, for 'Sanatogen' is a chemical combination of organic phosphorus and protein — those two essentials without which even the strongest nervous system will break down under strain. If you are feeling tired or on edge, ask your chemist if he has a tin of 'Sanatogen'.

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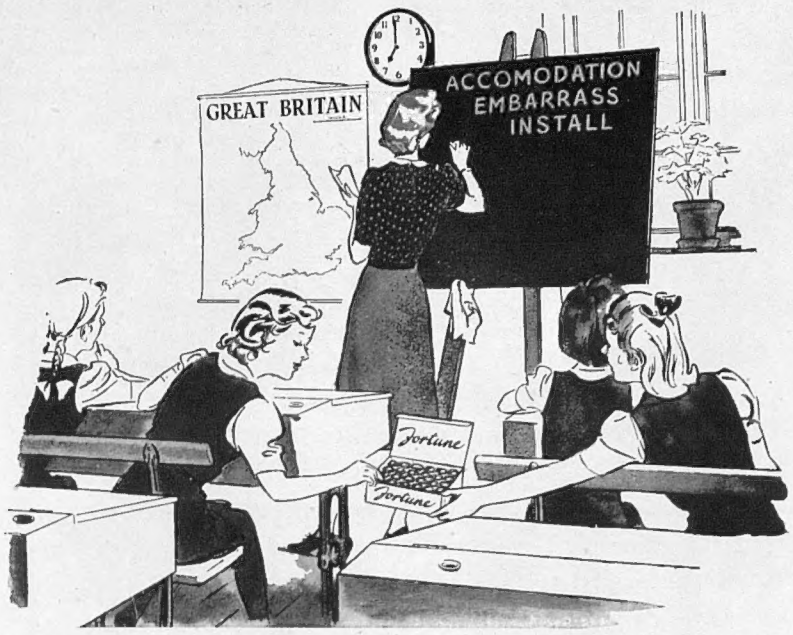
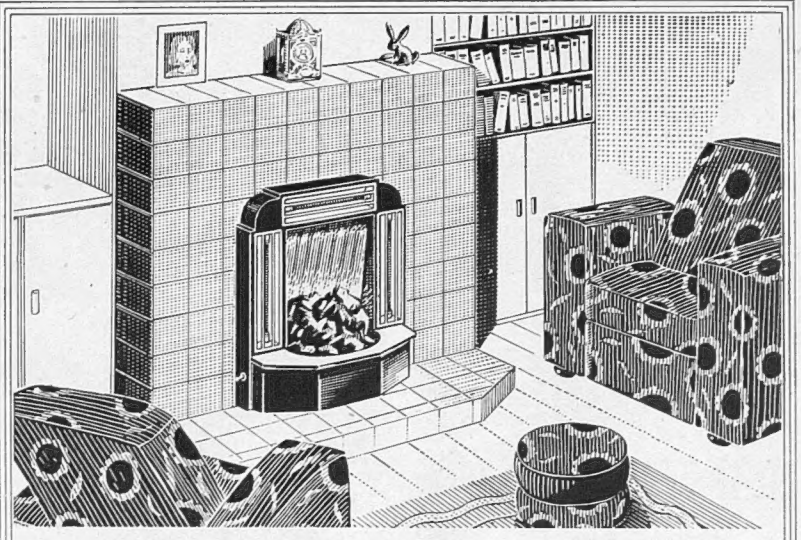



## What is wrong with this picture?

Which is the most glaring mistake here? Surely the fact that the girls have FORTUNE Chocolates. Caley aren't making FORTUNE now—and can't until after the war. The other errors are perhaps not quite so evident. But, look at those desks, aren't they the wrong way round? Doesn't the map show England and Wales only? Would a girls' school be open at 7 o'clock? And the spelling? (Don't expect you'll need any help with that!)

**CALEY** CHOCOLATE

★ *By the way, although* FORTUNE *Chocolates can't be made until we've a factory of our own again, there's still Norwich Chocolate for you to enjoy.*



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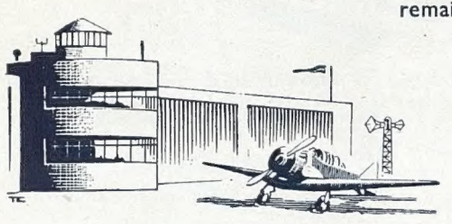

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★ *The Army Benevolent Fund, by grants to Military Charities, helps them to give relief wherever needed to men and women of all sections of the Army, and their dependants.*

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